IMPLICIT PERSONALITY AND LEADERSHIP

IN STRESSFUL AND DANGEROUS SITUATIONS: A FIRST STEP

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IN STRESSFUL AND DANGEROUS SITUATIONS: A FIRST STEP

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SUMMARY

Leadership in stressful and dangerous situations is vitally important in terms of lives, property, and national strategic objectives. But our understanding of effective leadership in these and other contexts is limited. Part of the problem is that interactionist theoretical perspectives are not reflected in contemporary leadership thinking. In addition, the impact of individual differences on leadership is often misrepresented or hidden by linear correlations and regressions conducted on continuous scores. This study employed new, innovative, indirect conditional reasoning measures to assess the personalities of 627 leaders entering the military's most challenging and stressful combat leader development course (the US Army Ranger School). These innovative measures predicted compelling differences in leadership, attrition, and in the peer evaluations made during the training. Analyses conducted on the continuous personality scores demonstrate that these findings are misrepresented or hidden by linear correlations and regressions. As an alternative, I present a configural scoring scheme, couched in a poker analogy, to explain how these individual differences combine to predict the odds of success for each of the 18 personality types studied.

CHAPTER 1

LEADERSHIP: THE LAND INTERACTIONAL PSYCHOLOGY FORGOT

For more than a century, behavioral scientists have sought to understand, predict, and develop effective leadership.[1] They began by investigating simple traits (e.g. Stogdill, 1948; Mann, 1959). Rejecting that line of research, attention turned toward studying leader knowledge, skills, experience and leader behaviors such as 'consideration' and 'initiating structure' (e.g. Hemphill, 1950; Katz, Maccoby, & Morse, 1950; Fleishman, 1995). Obtaining useful findings, researchers shifted their attention toward situational variables and 'contingency theories' (e.g. Vroom & Yetton, 1973; House & Mitchell, 1974; Hersey & Blanchard, 1977). More contemporary leadership theories focus on leader-follower relationships (e.g. Danserau, Graen, & Haga, 1975; Graen, 1995), 'leadership styles' (e.g. Bass, 1985; Avolio, Bass, & Jung, 1999), and 'shared leadership' (e.g. Bowers & Seashore, 1966; Day, Gronn, & Salas, 2004).[2]

This progression has taken place against a backdrop of broader, thematic change in psychological thought (e.g. behaviorism, cognitivism, and more recently interactionism). Contemporary behavioral science broadly embraces interactionism and multifactorial causation, but contemporary leadership theories largely decline to measure fundamental individual differences (e.g. abilities, traits, implicit motives) in leaders, subordinate leaders, or followers. If situational factors are considered at all, they

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[1] In this manuscript leadership is discussed in accordance with common terminology distinguishing between "Attempted", "Successful", and "Effective" leadership (Hemphill, 1958; Bass, 1960; Hemphill, 1961).

[2] For detailed reviews, see Yukl (2006) or Smith (2011, pp. 3-35).

primarily function to prescribe the specific leader behaviors and styles that psychologists believe are situationally optimal (Smith, 2011, pp. 16-20). Given these facts, it seems reasonable to assert that contemporary leadership theories are not interactional in any substantive way. In fact, the sole major leadership theorist to postulate interactions between fundamental individual differences and situational factors was Fiedler (1967), who showed that an indirect measure of personality-defining motives (i.e. Least Preferred Coworker or 'LPC') interacted with situational variables to influence leader behaviors, follower behaviors, and organizational effectiveness (Smith, 2011, pp. 20-25). In my view, at least two obstacles inhibit the progress of interactionist perspectives in the study of leadership. First, the impacts of fundamental individual differences are often misrepresented or hidden by linear combinations, correlations and regressions conducted on raw or standardized scores. Second, in many cases, the positive and negative impacts of leader individual differences are domain specific.

Obstacle I: Simplistic Analyses and Linear Combinations

The writings of Stogdill (1948; 1974) are often cited as turning points, i.e. when leadership science began to turn its back on trait theories[3]. However, often ignored by modern citations of Stogdill's work, is his conclusion that while leader traits are important, so are situations and the attributes of followers:

> 'Reviews by Bird, Jenkins, and Stogdill have been cited frequently as evidence that leadership is entirely situational in origin and that no personal characteristics are predictive of leadership. This view overemphasizes the situational and underemphasizes

[3]Mann (1959) is also often cited as a deathblow for trait theories of leadership. In the following pages, I argue that Stogdill's conclusions are often misrepresented. Different but compelling arguments are available elsewhere concerning Mann. See Lord, De Vader, & Alliger (1986, pp. 402-403).

> the personal nature of leadership. Strong evidence indicates that the behaviors and traits enabling a mobster to gain and maintain control over a criminal gang are not the same as those enabling a religious leader to gain and maintain a large following. Yet certain general qualities characterize both.' (Stogdill, 1974, p. 72).

In fact Stogdill, among others, argued for an interactionist perspective:

> '[Research indicates that leaders] do indeed exhibit personality, and personality is an important factor in emergence as a leader and in maintaining the role. Early theoretical attempts to define leadership in terms of personality produced a reaction in which some writers denied the importance of this quality …leader characteristics and situational demands interact to determine the extent to which a given leader will prove successful' (Stogdill, 1974, p. 411).

Stogdill advocated for conditional, non-linear, and multivariate hypotheses over more simplistic conceptualizations (Stogdill, 1974, p. 407; see also p. 44, 78, 82, and 406). Supporting his argument were studies of general traits, abilities, and personality. For example, Stogdill reviewed 33 studies investigating the relationship of intelligence to leadership. All but four found that leaders surpass followers in intelligence and that high intelligence was associated with other characteristics (i.e. wisdom, maturity, perseverance, alertness, and conscientiousness) which contribute to a person's value as a leader (Stogdill, 1974, p. 44). Stogdill further concluded that "one of the most significant findings concerning the relationship of intelligence to leadership is that extreme discrepancies between the intelligence of leaders and their potential followers militate against the exercise of leadership' (Stogdill, 1974, p. 44). Hollingworth described his findings: "among children with a mean IQ of 100, the IQ of the leader is likely to fall between 115 and 130. That is, the leader is likely to be more intelligent, but *not too much more* intelligent than the average of the group led." (Hollingworth, 1926, quoted by Stogdill, 1974, p.44). Theoretical explanations for the observed curvilinear relationship focused on social and communication difficulties which grew as the gap in intelligence between potential leader and followers widened (Stogdill, 1974, p. 44). Identical findings

exist regarding intelligence-leadership relationships in adult work settings (see Ghiselli, 1963; Riggio, Murphy, & Pirozzolo, 2002, p. 2).

This pattern of results illustrates several conceptual and methodological problems which obscure the relationships between traits (e.g. intelligence and personality) and effective leadership. When these relationships have been discounted, the analysis commonly suffers from several of the following: a) measures of leader traits are not considered in relation to those of followers, despite evidence that trait differentials between leaders and led are impactful; b) the assumption is made that the relationships between leader traits and effective leadership are linear, when there are compelling reasons to believe this is not necessarily so; c) the interpretation of results discounts the fact that the measures selected were limited in scope, neglecting important aspects of the construct that are at the root of that trait-leadership relationship; and/or d) the analysis and interpretation ignores heteroscedasticity in the criterion distribution.

To expand on points a) and b), above: a pattern of results similar to that already discussed for intelligence exists in the realm of personality. For example, personality trait differentials between leader and followers were shown to relate to group behavior and performance. Disruptive behavior and decision-making effectiveness were shown to vary systemically across groups as a function of authoritarian-equalitarian leader-follower personality combinations (Frey, 1963, cited by Stogdill, 1974. p.108). An extensive program of research investigating leadership in military groups under stress (in survival training) found that irreconcilable differences in leader-follower values and personality jeopardize group survival in military operations (Torrance, 1961, pp. 111-112). Stogdill concluded that, in effective leadership, the personal characteristics of the leader are

related to the characteristics and goals of followers (Stogdill, 1948, pp. 64-65) (also see Bass, 1960, pp. 18, 177-178; Van Kleef, Homan, Beersma, & van Knippenberg, 2010). Further, Bass et al. found that both individuals scoring high and those scoring low on personality tests for authoritarianism were equally ineffective in leaderless group discussions. Those with moderate scores were most influential (Bass, McGehee, Hawkins, Young, & Gebel, 1953). Similar conclusions were reached in a study of leader personality, leader acceptance and group cohesion among Air Force enlisted men (Medalia, 1955). Finally, the results of 11 studies reviewed by Stogdill showed that leaders were more dominant and ascendant; but in four studies "bossy" and "domineering" personalities were rejected as leaders (Stogdill, 1974, p. 50). Aristotle, tutor to Alexander the Great, observed: "Anyone can become angry – that is easy. But to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way – that is not easy" (Aristotle, quoted by Army FM22-100, 1999, pp. 2-17). Aristotle observed that effective leaders are neither dominated by emotionality, nor devoid of it. Additionally, situational and follower differences are important. Aristotle might find it curious that since his time the relationships between leader traits and effective leadership have been assumed to be linear, and leader-follower trait differentials have been largely ignored.

To expand on point c), above: empirical analyses of trait-leadership relationships often measure selected aspects of a trait (e.g. mathematical and verbal intelligence) while ignoring aspects of that trait (e.g. forms of social intelligence) that are at the root of that trait-leadership relationship (Riggio et al., 2002, p. 2; Zaccaro, 2002, 2007). Restating this example in the realm of personality: we often measure selected aspects of personality

(e.g. traits such as: conscientiousness and extroversion) while ignoring important aspects of personality (e.g. implicit motives such as: power motive, achievement and aggression) which are also at the root of the relationship between personality and effective leadership.[4,5]

To expand on point d), above: ignoring heteroscedasticity in the criterion distributions misses the fact that leader traits (e.g. intelligence and personality) contribute to and enable group performance but do not guarantee it. Unmeasured leader, follower, organizational and situational factors often cause failure in spite of how smart, achievement-oriented, influential, and pro-social the leader is (Voiers, 1953; Kerr & Jermier, 1978; Podsakoff, Mackenzie, & Bommer, 1996). In contrast, the effectiveness of groups led by stupid, timid, narcissistic, and excessively coercive people is uniformly low (Chidester, Helmreich, Gregorich, & Gels, 1991; Williams, 2005; Babiak & Hare, 2006; Sutton, 2007). For these reasons (a-d, above), the impact of leader traits is often observed as increased variance in the criterion distribution, located in relation to a 'sweet spot' in the predictor (noting that predictors may sometimes take the form of trait differentials between the leader and the led). In sum, the impacts of leader individual differences are often misrepresented or hidden by linear combinations, simple correlations or regressions conducted on raw or standardized scores.

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[4] Yukl joins others in differentiating between "personality traits" which are "relatively stable dispositions to behave in a particular way", and social motives which are relatively stable desires "for particular types of stimuli or experiences …such as achievement, affiliation, power". Motives are "important because they influence attention …and guide, energize, and sustain behavior" (Yukl, 1998, p. 234) (see also: Allport, 1937; Ghiselli, 1968; James & Mazerolle, 2002).

[5] Also see Judge, Colbert, & Ilies (2004, p. 548), who discuss that observed single trait-leadership relationships may be of limited size because traits function in combination, "[if a leader is to be effective, she] must possess the intelligence to make effective decisions, the dominance to convince others, the achievement motivation to persist…"

Obstacle II: Domain Specificity

We've known for some time that the impact of individual differences on leader and organizational effectiveness is domain specific (Stogdill, 1974, p. 72). That is, the combinations of individual differences which are a cause of effective leadership often depend on the situation and on those led. Further, if we are to study leadership in any domain, we must have valid measures of leader and/or organizational effectiveness relative to that of similarly situated peers and competitors (Hogan, 1994, p. 10; Hogan & Kaiser, 2005, pp. 172, 176-177). Studies meeting that requirement are few and far between (Hogan, 1994, pp. 11-12). To further underscore the importance of an interactional approach, prominent thinkers indicate that the valid measurement of leader and organizational effectiveness requires extensive knowledge of the domain (Hogan, 1994, p. 10; Kozlowski & Bell, 2003, p. 346).

In sum, empirical studies of leader individual differences which are not rooted in a specific leadership domain (or that lack a deep understanding of the chosen domain) tend to employ poor dependent measures. In addition, they tend to treat individual differences in an 'atomistic fashion', suggesting that individual traits act singly and linearly to effect leadership (Stogdill, 1974, p. 82). Failures like these are common in trait-leadership research, and they join a longer list of conceptual and methodological issues enjoining a better understanding of effective leadership, e.g. the criterion problem, multi-level effects, the importance of time, etc. (for more complete discussions, see: Hogan, 1994; Klein & Kozlowski, 2000; Mitchell & James, 2001; Zaccaro & Klimoski, 2001; Avolio, Sosik, Jung, & Berson, 2003; Yukl, 2006; Zaccaro, 2007, pp. 6-7).

In spite of such challenges, the contribution of traits (such as intelligence and personality) to effective leadership remains worthy of investigation. Stogdill wrote:

> 'the conclusion that personality is a factor in leadership differentiation does not represent a return to the trait approach. It does represent a sensible modification of the extreme situationist point of view. …[Early trait theories] suggested that individual traits acted singly and linearly to effect leadership. [In contrast,] the situationist approach denied the influence of individual differences' (Stogdill, 1974, p. 82).

Yet forty years later, behavioral science largely neglects to investigate leadership from an interactional perspective. Perhaps modern theories of leadership effectiveness should acknowledge that effective leaders are not only both "born" and "made", i.e. nurtured, mentored, educated, trained, inspired, and resourced (Bouchard, Lykken, McGue, Segal, & Tellegen, 1990, p. 227; Kirkpatrick & Locke, 1991; Yukl, 1998, p. 234; Avolio et al., 2003, pp. 290-292), but they also exist within specific domains.

Rationale for this Study

In the absence of an interactional theoretical perspective, contemporary leadership theories essentially advise would-be leaders to behave in certain ways (i.e. to adopt certain styles). For example, leaders are encouraged to: 1) establish cooperative, interdependent relationships, 2) demonstrate their personal competence, and 3) demonstrate their good character (Deutsch, 1958; Thibaut & Kelley, 1959; Deutsch, 1962; Gibb, 1964; Zand, 1972; Deutsch, 1973; Roberts & O'Reilly, 1974; Golembiewski & McConkie, 1975; Gabarro, 1978; Kelley & Thibaut, 1978; Mayer, Davis, & Schoorman, 1998; Sweeney, Thompson, & Blanton, 2009; Sweeney, 2010). Other theories encourage leaders to be 'transformational' (i.e. 'charismatic', 'inspirational', 'intellectually stimulating', 'individually considerate' and broadly pro-social); or to employ 'the full range' of leadership styles (including 'transactional', 'management by

exception', 'permissive', and 'laissez-faire') (Bass, 1985; Avolio & Bass, 1991; Howell & Avoilio, 1993; Bass, 1997; Bass & Avoilio, 1997; Avolio et al., 1999; Bass, 2002). These theories assume: 1) would-be leaders *know how* to behave in these ways, 2) would-be leaders *want*, and *are able*, to behave in these ways (i.e. that they have the cognitive capacity, motivation, and volition to control their behavior over time in the manner prescribed by psychologists), and 3) that followers respond positively to leaders who behave that way*, regardless of the situation*.

While all three assumptions invite challenge, the first two are especially questionable in light of a growing body of research highlighting the limits of human cognitive capacity, volition, and rationality. As scientists investigate the interaction of implicit and explicit, affective and rational, and controlled and uncontrolled behavioral processes, the emerging view sees motives and emotions as bases for reason, and pivotal behavioral processes as being relatively implicit and automatic.[6] This aspect of human nature is especially apparent when people are under stress (Strauss, 1944; Stogdill, 1974; Keinan, 1984; Fiedler & Garcia, 1987; Fiedler, 1990; Smith, 1990; Gohm, Baumann, & Sniezek, 2001; Fiedler, 2002; Kahneman & Klein, 2009; Smith, 2011).

Given these findings, it seems reasonable to consider the implications of personality-defining implicit motives for leadership. A large body of theoretical and empirical work describes implicit motives as the 'unconscious needs and aversions' (i.e.

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[6] An extensive body of research documents the evolution of this view (e.g. Nisbett & Wilson, 1977; Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977; Marcel, 1983; McClelland, 1985; Kunda, 1990; Westen, 1991; James, 1998; Westen, 1998; Winter, John, Stewart, Klohnen, & Duncan, 1998; Bargh & Chartrand, 1999; Shiv & Fedorikhin, 1999; Bargh, 2001; Haidt, 2001; Loewenstein, Weber, Hsee, & Welch, 2001; Zajonc, 2001; James & Mazerolle, 2002; Kehr, 2004; Nowlis & Shiv, 2005; Shiv, Loewenstein, & Bechara, 2005; Reyna & Farley, 2006; Baumeister, Vols, & Tice, 2007; Clore & Huntsinger, 2007; Bargh, 2008a, 2008b; Barsalou, 2008; Bargh, 2009).

the drives) that 'energize, guide, and sustain' human behavior (Allport, 1937; Murray, 1938; Winter, 1973; McClelland, 1985; James, 1998; James & Mazerolle, 2002; Winter, 2002; James et al., 2005; Yukl, 2006; James et al., 2011, in press). For example, individuals possessing an implicit power motive should be implicitly biased toward behaving in ways which gain them control and influence, and biased against behaving in ways which detract from their influence (Smith, 2011; James et al., 2011, in press). Further, they would be implicitly motivated across their life-span (and particularly in evocative contexts) to develop and present themselves in ways that enhance their influence (Smith, 2011). So, if follower perceptions of competence and good character increase leader influence, then leaders implicitly motivated by power would be driven to develop and display these qualities. Further, leaders implicitly motivated by power might be 'intellectually stimulating' and 'individually considerate' when followers and the situation make these behaviors adaptive. But they may 'simplify complex issues' and 'treat people consistently' when followers or the situation make these behaviors adaptive.

Briefly stated, research supports the assertion that leader implicit motives (e.g. power, achievement, and aggression) influence organizational climate and effectiveness (Fiedler, 1967; Ghiselli, 1968; Moreland & Levine, 1982; Bass, 1985; McClelland, 1985; Schneider, 1987; Schneider, Goldstein, & Smith, 1995; Hogan & Hogan, 1996; Schneider, Smith, & Goldstein, 2000; Bass, 2002; Hogan & Hogan, 2002; James & Mazerolle, 2002; Winter, 2002; James et al., 2005; Morris, Brotheridge, & Urbanski, 2005; Bing et al., 2007; Frost, Ko, & James, 2007; Smith, 2011; and James et al., 2011, in press; James & Meyer, 2011, in press). Those with strong motives for power and achievement are expected to build more effective teams than those who lack an implicit

power motive, are avoidant, and/or overly aggressive. Further, implicit motives are expected to have stronger implications for leadership in situations where 'mortality salience' and 'stress' are high, 'situational strength' is low or dynamic, and cognitive capacity is taxed (e.g. in a combat zone, see Smith, 2011).

In sum, much has been done to document 'what effective leaders do', both in terms of their specific behaviors and in terms of their behavioral styles. Unfortunately, relatively little has been accomplished to understand and measure the factors which explain 'why they behave that way' (and why other leaders with similar training, in similar situations, do not). We have learned much about leadership in the past century, but in the absence of an interactionist theoretical perspective, theorists struggle to define and measure pivotal contemporary constructs such as leader 'authenticity' (Bass, 1960, pp. 318-322; Bass, 2002, p. 113; Bedeian & Day, 2004; Smith, 2011). While the base rate of leader incompetence in America is estimated at 60% (Hogan, Raskin, & Fazzini, 1990; Hogan, 1994, p. 12; Tepper, 2000; Harvey, Stoner, Hochwarter, & Kacmar, 2007; Tierney & Tepper, 2007), leadership development consultants consume nearly $45 billion annually, often without measured success (Gomez, 2007; Avolio & Hannah, 2008; Coutu & Kauffman, 2009; Avolio, Avey, & Quisenberry, 2010). More useful theories are needed.

More useful theories may eventually specify the interactions between important leader, follower, and situational variables but such an approach requires that critical leader, follower, and situational constructs be defined and measured. Since contemporary leadership theories largely ignore fundamental individual differences, convincing thinkers to shift their theoretical perspective towards interactionism will require

compelling evidence that individual differences beyond abilities and Five Factor Model-style personality traits are a cause of effective leadership. This in mind, the measurement of implicit motives via conditional reasoning represents a promising new approach, and an opportunity to study important individual differences which are expected to help explain effective leadership within an interactional framework (Ghiselli, 1968; Winter, 1973; Bass, 1985; McClelland, 1985; Hogan & Hogan, 1996; James, 1998; Bass, 2002; Hogan & Hogan, 2002; James & Mazerolle, 2002; Winter, 2002; James et al., 2005; Morris et al., 2005; Smith, 2011; and James et al., 2011, in press). A well-executed program of research investigating the implications of implicit personality for leadership in stressful dangerous situations would help accomplish four important objectives: 1) it would improve our understanding of the causes of effective leadership; 2) it could contribute to the definition and measurement of important leadership constructs such as leader 'authenticity'; 3) it may help shift leadership research toward interactionism, facilitating leadership theories measuring fundamental leader, follower, and situational differences; and 4) it would contribute to leader selection and development practices for stressful and dangerous situations, as well as for more mundane work situations.

The US Army Ranger School: A First Step

The US Army Ranger School is an extremely intense combat leader development course. The purpose of the 61-day course is to develop leaders capable of motivating and directing others to achieve difficult and dangerous objectives while enduring the harsh psychological and physical demands of continuous combat operations. The Ranger course is unique in that it is the only leader development course in the US military

specifically designed to simulate the stresses of continuous combat operations as closely as possible:

> 'Leaders who make excellent tactical decisions in the classroom or in normal training sometimes fail miserably under the stress of combat. Hunger, fatigue, and the press of a tactical situation uncover weaknesses which an individual never knew he had. An individual in Ranger training gains an insight into himself and his fellow man. … it is a challenge to prove oneself in a realistic tactical environment, under mental and physical stress approaching that found in actual combat' (*Ranger*, 1959; *Ranger Handbook*, 2000).

While the Ranger course is not actual combat and does not intentionally risk lives, it does provide an opportunity to study leadership in a context where relatively dangerous individual and team tasks are performed[7] and great efforts have been taken to simulate combat missions, conditions, environments and stressors (*Ranger*, 1959; Moore et al., 1992; Bernton, Hoover, Galloway, & Popp, 1995; Friedl, Mays, Kramer, & Shippee, 1995; Opstad, 1995; Walker, 1995; *Ranger Handbook*, 2000; Lock, 2005; Nindl et al., 2007).

The Ranger course is developmental, but also screens and selects combat leaders from among those selected to attend. Attrition rates fluctuate between 55% and 65%. To graduate, student leaders must learn and perform both as individuals and as a team, while enduring extreme sleep and food deprivation, and exposure to the elements combined with demanding cognitive and physical military tasks (*Ranger*, 1959; Moore et al., 1992; Bernton et al., 1995; Friedl et al., 1995; Opstad, 1995; Walker, 1995; *Ranger Handbook*, 2000; Lock, 2005; Nindl et al., 2007). During the course, student behavior, performance,

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[7] For example: in 1977, two students died of hypothermia when they got separated from their squad in the wilderness; in 1985, one student drowned while crossing a swollen stream; in 1992, a student died of exposure during 'mountain phase' and another fell to his death while negotiating a high-altitude obstacle; in 1995, four students died of hypothermia in a single incident; and other deaths and serious injuries have resulted from incidents ranging from lightning strikes to sky diving accidents (Lock, 2005).

and leadership are rigorously observed and the data recorded and evaluated by the school's cadre of instructors. Importantly, instructors and commanders at the Ranger School were interested in the implications of implicit personality for leadership in stressful and dangerous situations, and agreed to support this study.

Research Questions

This study investigated the relationship between leader implicit personality as measured via conditional reasoning (specifically: the power motive, achievement motive, and aggression) and leader performance, peer evaluations, and attrition. The research questions included:

1. Is implicit personality, as measured via conditional reasoning, predictive of leader performance, peer evaluations, and attrition in the US Army Ranger School?
2. Will alternative analyses, e.g. 'configural scoring' (Meehl, 1950; Jannarone & Roberts, 1984), yield findings that would otherwise be misrepresented or hidden by linear correlations or regressions conducted on raw or standardized scores?

Hypotheses

Since the joint effects of these implicit motives had never been examined in this leadership domain before, a limited set of hypotheses was specified:

1. Those scoring high on the Conditional Reasoning Test-Aggression[8] (i.e. aggressive) combined with low scores on the Conditional Reasoning Test-Relative Motive Strength[9] (i.e. fear-of-failure) were expected to do poorly relative to their peers on one or more of the three outcomes (leader performance, peer evaluations, and/or attrition).

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[8] CRT-A measures aggression vs. conflict avoidance. High scores signify aggression.
[9] CRT-RMS measures achievement motive vs. fear-of-failure. High scores signify achievement motives.

2. Those with high scores on the Conditional Reasoning Test-Leadership[10] (i.e. power motivated) combined with high scores on CRT-RMS (i.e. achievement motivated) were expected to out-perform their peers on one or more of the three outcomes.

3. Those with low scores on CRT-L (i.e. submissive) combined with low scores on CRT-RMS (i.e. fear of failure) were expected to do poorly relative to their peers on one or more of the three outcomes.

4. Alternative analyses (e.g. configural scoring) were expected to yield findings that would otherwise be misrepresented or hidden by linear correlations and regressions conducted on continuous scores.

Although relationships involving other combinations of aggression and achievement motive (and more moderate scores on the power and achievement motives) were expected to vary in systematic and explainable ways, the specific interactions were not specified in a priori hypotheses.

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[10] CRT-L measures power motive vs. submissiveness. High scores signify power motives.

CHAPTER 2

METHOD

This study employed a quantitative survey methodology. The data were collected without intrusive interference with Ranger students, and without impacting the normal operations of the Ranger School. On the night before they began their Ranger training, leaders who volunteered completed a one-hour, paper-and-pencil inductive reasoning test. Scores from that test were analyzed together with the data collected on each student as a normal part of Ranger School operations.

Participants & Procedure

With approval from applicable IRBs and permission from military commanders, incoming students at the US Army Ranger School were asked to volunteer. Six hundred thirty two (out of more than 700 incoming students in two classes) signed informed consent forms, provided demographic information and answered a total of 48 inductive reasoning problems. Five participants were deleted from the data set: one participant skipped large portions of both his personality measures; and four participants showed strong evidence of response set (e.g. answering "c" to 12 questions in a row).

Due to the nature of the course, the remaining 627 participants were all male, ranging in age from 19 to 43 (M=26, *SD*=3.9; see Table 1, Appendix B for demographics). Two hundred twelve (212) of the Rangers took both CRT-A and CRT-RMS. Four hundred fifteen (415) of the Rangers took both CRT-L and CRT-RMS. After students completed their reasoning tests, they were thanked and released.

Variables

Predictors

In the portion of the sample which took CRT-A and CRT-RMS (N=212), each leader's aggression and achievement scores were obtained by scoring their answers on those two conditional reasoning tests (see: James, 1998; James & McIntyre, 2000; James et al., 2005; James et al., 2011, in press). In that part of the sample which took CRT-L and CRT-RMS (N=415), each leader's power and achievement scores were obtained in the same manner.

Criteria

During Ranger School, classes are divided into small groups ('squads') containing between 12 and 15 soldiers. Individuals remain in squads for the duration of the training. Students train, learn and perform together in their assigned squad unless individual members quit, get injured, 'get recycled', or are otherwise removed from the course. When a student 'gets recycled', it means the student: 1) has failed that phase of the training, 2) is ejected from that class, but not from the Ranger School, and 3) must go back and repeat that phase of training with the subsequent class. To graduate, students must pass each of the three phases of Ranger training. These phases are called: 1) "Darby", 2) "Mountain", and 3) "Florida". Due to the possibility of recycling, students do not necessarily graduate with the same class or squad they started with. During the course, training and evaluations are administered by Ranger Instructors (RIs) who rigorously monitor and evaluate student behavior, performance, and leadership. In addition, each leader is evaluated by his peers at the end of each training phase. Ultimately, students will either succeed and graduate, or fail and be attrited. Data

regarding these outcomes are available in the individual's training records, kept by the Ranger School. Those records provide readily available and reliably measured criteria spanning: 1) attrition, 2) leader performance, and 3) peer evaluations.

Attrition. Students attrit from the Ranger School for one or more of roughly six reasons, they: 1) get injured, 2) quit, 3) get 'peered out', 4) lie, cheat, steal, or engage in other egregious conduct, 5) fail a required event during 'Ranger Assessment' and/or 6) are dismissed because they demonstrate poor leadership of mission patrols. Often, training records indicate that a leader was dismissed for more than one of these reasons. When one is attrited for injury or medical reasons, it is referred to as a "Med Drop". To be "peered" means to have failed a peer evaluation. Those who quit are identified as "LOMs" (Lack of Motivation). Instances of cheating or other egregious conduct are identified as "SORs" ("Serious Observation Reports"). Given these data, relationships were assessed between student implicit personality and overall attrition (as in Wiita et al., 2010, where achievement motive was shown to predict attrition in U.S. Navy SEALS BUD/S training), except here additional analyses also examine attrition by category.

Leader Performance. Available metrics of leader performance included: 1) whether or not student leaders were dismissed from the course because of poor leadership of mission patrols, and 2) the total number of training phases leaders passed, relative to the number failed.[11]

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[11] Note: Observing RIs have explicit guidelines and well-communicated norms for evaluating student leadership and performance. 'Spot reports' and 'leadership position grades' are compared across raters by senior instructors and Ranger School leaders. Consistency and agreement in these performance measures are important matters, which are actively monitored and maintained by Ranger School leaders.

Peer Evaluations. As a normal part of the Ranger School, student leaders are required to evaluate the other members of their squad at the end of each phase of training. During peer evaluations each student leader must force-rank every other member of his squad, except himself, from best to worst in a global measure of leadership and teamwork. The Ranger School provided a meticulous explanation of the peer evaluation scoring system (see Appendix A) but, briefly stated, if a leader fails a peer evaluation it means that approximately 2/3rds of the other members of his squad ranked him as being in the bottom 1/4 of the leaders they ranked. Further, none of his squad mates ranked that leader as being in the top 1/4. In other words, if one fails a peer evaluation it means there was strong agreement in the negative rankings provided by that leader's peers. When a leader fails a peer evaluation, they are said to have been 'peered-out' of the squad. Often, that means they will be recycled and must repeat that phase of the training after being assigned to a new squad. But if that leader failed the phase for other reasons (in addition to his peer evaluation) or if he fails peer evaluations a second time (e.g. during his second attempt at the same phase), that leader is dropped from the course.

Since there are three phases of the training, each leader might be expected to have three peer evaluations, but those who are recycled may experience more than three peer evaluations, and those who quit or are removed from the course may experience fewer. For these reasons analyses of peer evaluations focused on: 1) whether or not leaders were dismissed from the course for peer evaluation failures, and 2) the total number of peer evaluations leaders passed, relative to the number they failed.

Analyses

These data comprise a rich set, but the most important outcome is arguably whether or not leaders ultimately succeeded and graduated, or were dismissed. Since this criterion is binary and the raw scores provided by the predictors are continuous, these data were analyzed in logistic regressions to see if the measures of implicit personality predicted graduation from Ranger School. In the first part of the sample (N=212), the predictors were the raw scores on CRT-A and CRT-RMS. In the second part of the sample (N=415), the predictors were the raw scores on CRT-L and CRT-RMS.

In alternative analyses, implicit personality scores were assessed in the context of cutoff scores and a configural scoring paradigm as being either: a) leaders likely to succeed (LLS), b) leaders likely to fail (LLF); or c) leaders likely to perform at the mean (LLM). Since that assessment converted two separate, continuous personality scores to a single, three-level ordinal predictor, chi-square analyses were employed to see if implicit personality, evaluated in this manner, predicted the criteria. The results of the regressions and configural scoring analyses were compared to see if configural scoring yielded findings that were misrepresented or hidden by the logistic regressions.

CHAPTER 3

RESULTS & DISCUSSION (CRT-A & RMS, *N*=212)

In the part of the sample that took CRT-A and CRT-RMS, raw scores on CRT-A ranged from 0 to +12 (M = 5.3, SD = 2.4). Raw scores on CRT-RMS ranged from -7 to +15 (M = 7.6, SD = 4.3). Readers will note that participants in both parts of the sample took CRT-RMS. In the sample as a whole (i.e. N=627), raw scores on CRT-RMS ranged from -8 to +16 (M = 7.1, SD = 4.6). See histograms at Appendix B. Interestingly, scores on the measure of aggression (i.e. CRT-A) were significantly correlated with those on the measure of achievement motivation (i.e. CRT-RMS), $r(210) = -0.184$, $p = .007$.

A logistic regression of graduation on CRT-A, RMS, and the interaction term yielded a model which was not significantly better than the 'intercept only' model, χ^2 (3, N=212) = 5.615, $p = .132$. Table 2 (Appendix B) shows the logistic regression coefficients, Wald tests, and odds ratios for each of the predictors. Briefly stated, none of the terms were significant. For example, for every one point increase in Aggression, leaders were somewhere between .864 and 1.32 times more likely to graduate. If the value is .864, it would mean one's probability of graduation would decrease with every one-point increase in aggression. If the value is 1.32, it would mean the probability of graduation increases with every one-point increase in aggression. In short, this analysis depicts the effect of a one-point increase in aggression as not reliably positive or negative (i.e. as not distinguishable from zero).

The findings were similar regarding the measure of achievement motive, and for the interaction term between aggression and achievement. Further, when logistic

regressions were employed to investigate leader-performance and peer-evaluation criteria, the results were no better. Most analyses stop at this point, often concluding that individual differences either have nothing to do with effective leadership, or that the relationships are not particularly compelling. But I believe they are missing something. Leadership science seems to examine individual differences either in an 'atomistic' fashion, or through lenses that depend on adding scores together in linear combinations and correlating those linear combinations with measures (or linear combinations of measures) of leader and organizational performance. But what if these differences just don't combine that way?

Poker & the Odds of Leader Success

What if, instead, individual differences combine in a manner similar to the way the values and suits of playing cards operate together to determine the rank of a given poker hand? In poker, it is the rank of the hand that provides us with an indication of its odds of success, rather than the values of the individual cards themselves, or some linear combination of those values. Domains, situations, and groups of followers vary. But so do the rules of 5- vs. 7-card stud and Texas Hold'em. The point here is not that the one leadership domain is different from another. That's true, but more interesting is the fact that our ability to understand every variation of poker is built upon our knowledge of a single underlying system of ordinal measurement that remains largely intact across specific variations of the game.

Imagine a deck of playing cards. But instead of the deck being limited to 4 suits, imagine that it has many. Of those different suits, perhaps only 5 are valuable or relevant in a given variation of poker. Maybe 8 suits are in play in some other variation. We do

not yet know the exact number of suits that are in play in any specific variation of poker, but the number of suits that are relevant in any variation is limited, and certain suits are always valuable in poker, no matter which variation is being played at the moment.

To clarify this analogy further, a 'suit' is an individual difference variable. The value on a card of a given suit is akin to one's score on that individual difference variable. While scores on individual variables may be framed from low to high, they are assessed in combination, and in the context of the game being played, as either ‘likely to win’ or ‘not likely to win’. So, to restate what I said above, I suspect that the number of individual difference variables needed to assess the odds of success for a given leader in a given domain is limited, and certain variables are always predictive no matter what leadership domain we are selecting for.

Poker & the Measurement of Individual Differences

In a normal deck of cards, there are 13 cards in every suit. These are analogous to an ordinal measurement system - one where errors in comparing the value of one poker hand to another are rare. When errors in comparing hands do occur, it is primarily because one or more people either don't know how to read the cards, or pay insufficient attention to them.

In psychology, I’d argue that the current state of measurement also provides us with measurements that are basically ordinal. But most of these systems: a) lack the stratification, and b) are not nearly as discrete as those found on a poker table. While measurement issues make it more difficult to reliably detect who has a set of individual differences which is likely to succeed (versus who is holding a hand likely to lose),

measurement issues alone are not the reason psychology has yet to provide a way to assess the likelihood of leader success. Instead, I suspect we are not paying sufficient attention to the cards, and we have yet to deduce how to read them. That is, we lack an understanding of how the cards in a would-be leader's hand combine to provide us with an indication of the odds that leader will be effective in his or her chosen domain.

To explain: in psychology, we might choose an individual difference variable we have reason to believe is important to leader effectiveness in a given domain. Then we design instruments to detect if the value of the card they hold of that suit is at a level we'd consider high or low. Many current measures are even good enough to detect if the value is 'a middle card'. A complicating issue is that the three levels above are necessarily 'fuzzy'. This is because psychologists are much less sure about how to categorize the value of a card which is close to a cutoff value. Meaning, in our science, if an individual's true score is 10 (e.g. on a variable like 'implicit achievement motive') it may be measured on a psychological test as an 8 (or vice-versa). So, if the cutoff score delineating the level of achievement motivation which is an asset in a leader is 10, then we are not particularly confident in classifying one with a raw score of 10 as ‘advantaged’ on that variable. We would be much more confident about doing so if his score on the test were a 16 (for example). In contrast, on a poker table, a deuce of spades is always the deuce of spades and a five of hearts is always the five of hearts. Yet, in spite of such concerns, I suspect we must still evaluate the suits and card values in an individual's hand in order to make a reasonable prediction concerning whether or not he is in possession of a hand likely to win.

Not All Variables Are Equally Important

On a poker table, suits have rank. These ranks are clear, ordinal, discrete, and invariant across poker games: 1) spades - the highest, 2) hearts, 3) diamonds, and 4) clubs - the lowest. In predicting leader effectiveness, we have yet to fully grasp the ranking system which applies to predictor variables, but we have some ideas about it.

Here again, the ordinal measurement system we can achieve both lacks stratification, and is not nearly as discrete as what we find on a poker table. Given the state of our knowledge, we cannot rank each individual difference variable in its own ordinal level of importance with regard to predicting the odds of leader success in a given domain. We can only posit that some individual differences are: a) more important, b) less important, or c) largely irrelevant in most cases and situations. Again, these classifications are necessarily 'fuzzy' in the context of domain/follower differences. That said, I believe theoretical and empirical work supports the following suits as among those we should consider 'more important' in most leadership domains: implicit power; implicit achievement; cognitive abilities; and domain specific knowledge/skills. I suspect the following variables to be among those 'less important': implicit aggression; narcissism; leadership behaviors or styles (e.g. 'transformational'), measures of explicit personality, and ‘the quality of leader-follower relationships’. Finally, I'd nominate any of the multitude of perceptual measures, self-report motives/values, prescriptive theories, and recommended philosophies that make up the remainder of the leadership literature as 'largely irrelevant’.

Briefly explained: variables akin to abilities, implicit motives and domain specific knowledge reside in the 'more important’ category because: a) these develop in context

over a lifetime and a career, i.e. they are difficult or time-consuming to change; and b) they are likely to be more important drivers of behavior in stressful and dangerous situations (Kahneman & Klein, 2009; Smith, 2011). On the other hand, variables like implicit aggression seem 'less important' because their consequences seem to be contingent upon the values of more important variables. Finally, behavioral styles are less important because in stressful or dangerous situations the ability to adhere to a consciously learned behavioral style depends on cognitive capacity, rationality, and volition (Wilson, Lindsey, & Schooler, 2000). In addition, the 'more important' variables speak to the question: "does this person have the basic drives, abilities, and knowledge required to lead in this domain?" If the answer to that question is yes, then those with advantageous behavioral styles might do better than those employing disadvantageous behavioral styles. But if the answer to that question is no, then there is no 'frequency of transformational leader behaviors' that will compensate.

Ranking Poker Hands

Importantly, the cards of a poker hand are most meaningful when they are all viewed together and judged in the context of the specific variation of poker being played. This is not to say that they can be added together or multiplied in linear combinations. Players with a pair of sixes are not assigned a score of 12, 36, or 48. Significant liabilities can exist, and yet be meaningless in the context of a poker hand that also contains important and timely assets. Under some conditions, certain liabilities may render certain assets unimportant but, again, this is not because liabilities are always subtracted from assets, and not because negatives (liabilities) always interact with (are

multiplied by) positives (assets) to create an even larger negative. Poker hands just don't work that way.

It is more appropriate to say that the suits and card values channel each other contingent upon the suits and values of all the other cards in the hand. Any given card can have a qualitatively different meaning when viewed in the context of one hand vs. another. In some experiments this could look like an interaction but it may not be (at least not in a strict, multiplicative interpretation of that word). Instead, the rank of a poker hand is determined by conditional rules of logic. This rank, in turn, is related to the odds of that hand's success. This analogy considered, it is possible that linear combinations of individual difference variables are not adequate to describe the way individual differences combine. The relevant individual differences in the profile of a leader could combine, instead, as the values and suits of playing cards do.

Poker and the Odds of Marital Success

There is reason to believe this approach to assessing the odds of leader success would work. In fact, similar prediction systems have been shown to be valid in other fields of psychology. Larson and colleagues (1994; 1994; 2000) study marriage and family issues, specializing in premarital counseling (e.g. "should you two get married or not?"). They built a system for assessing the odds that a would-be marriage will end in divorce. It is based primarily on individual differences, and the system has 3 aspects. First, a limited set of about 7 individual difference variables are assessed in both partners. In the context of cutoff scores, these variables are evaluated as either assets or liabilities. Second, a limited set of about 7 'couple traits' are assessed in the same way. The 'couple traits' are the result of intra-couple individual differences. For example, if both partners

are of similar levels of intelligence it is labeled an asset. If one is high in intelligence and the other low, it is a liability. In another example 'communication skills' are assessed. Observations of the couple's interactions are made while they discuss one or more substantive pre-marital questions. If both partners are assessed as having good communication skills, then the value of this variable is judged to be an 'asset'. If one is assessed as having bad communication skills the impact on the odds of success is not clear. If both are assessed as having bad communication skills this variable is assessed as a liability. Finally, a limited set of about 6 situational differences are assessed as being either supportive of success, obstacles to success, or 'impact not clear'. These variables are not combined linearly. They are assessed as one assesses the cards in a poker hand, i.e. configural scoring (Meehl, 1950; Jannarone & Roberts, 1984). The Larson et al. system can't and does not attempt to predict the outcome of specific cases. But it does provide very useful information, e.g. 'couples matching your profile who marry have odds of divorce nearly 3 times worse than the national average.' This information, combined with advice and, where possible, development is the core of a system with demonstrated and compelling validities when it comes to assessing and improving the odds of marital success (Holman et al., 1994; Larson & Holman, 1994; Larson, 2000). I believe leadership scientists can use common sense and empirical data to build a system like this that will work better than anything currently available when it comes to assessing the odds of small and mid-level leader success vs. failure.

Poker and the Assessment of Leader Personalities with CRT-A & RMS

In the first part of the sample, I wish to use the available measures to quantify the personalities of 212 leaders in an ordinal metric of implicit personality vis-à-vis

leadership in this domain. I have measures of implicit aggression and achievement motive, but what do specific combinations of these scores mean in the context of this leadership domain? While we have yet to investigate this issue, we can apply our knowledge of these individual differences and the domain to propose and test a set of cutoff scores and channeling rules that are reasonable.

For example, we have reason to believe personalities driven by implicit achievement are more likely to succeed in this leadership domain. This in mind, we consult the distribution of scores on CRT-RMS and set a cutoff score based on plus or minus one standard deviation. If CRT-RMS is greater than or equal to 10, we classify that individual as driven by achievement and refer to him as an "AM". If the score is less than or equal to 4, we classify that individual as driven by fear of failure and refer to him as an "FF". If the score is between 4 and 10, we consider that individual to be 'in the middle' and refer to him neither an AM nor an FF (nAM). In this leadership domain, implicit achievement, as measured by CRT-RMS, is posited as a 'more important' variable.

With achievement, we were inclined to evaluate high scores as personality assets and low scores as liabilities. But with aggression, our knowledge of the domain and of the construct as measured by CRT-A causes us to posit a different relationship. Empirical evidence has shown that personalities scoring 8 or higher on CRT-A are apt to engage in counterproductive work behaviors (James & LeBreton, 2012, p. 118), so we have reason to believe that, all things being equal, an overly aggressive personality is not an asset. But, in this domain, a conflict avoidant individual is also not an asset. In layman's terms: we might expect the leaders with the highest odds of success in this domain to be those who are 'not looking for a fight' but 'would not run' if one were made necessary. This in

mind, we set a cutoff score: if CRT-A is greater than or equal to 8, we classify that individual as driven by Aggression and refer to him as an "AG". If CRT-A is lesser than or equal to 4, we classify that individual as a 'Conflict Avoidant Pro-social' and refer to him as a "CAP". If the score is between 5 and 7, we classify that individual as being in the middle and refer to him as neither an AG nor as a CAP (i.e. nAG). In this leadership domain, aggression is posited as a 'less important' variable.

With reasonable cutoff scores set, we must now consider the channeling rules that describe how the aspects of a multifaceted person combine to predict the odds of leader success in this domain. The best place to start would be to consider all those variables posited as 'more important'. Unfortunately, in the current study we lack measures of abilities and domain specific knowledge, but the available measures of implicit personality are still sufficient to establish a tertiary stratification of the sample.

A two-way ANOVA was carried out to gain an understanding of the initial performance data for each of the nine personalities conceptualized by the factorial combination of the three levels of aggression and the three levels of achievement motivation. While the ANOVA indicates that neither grouping factor, nor the interaction are significant predictors of graduation, researchers with knowledge of these individual differences and the domain see differences in performance across personality types that are both compelling and explainable (see Figure 3 and Tables 3 & 4, at Appendix B). In the following pages, leader personality types are judged based on the likely personality dynamics and initial performance data. They are classified either as: 1) leaders likely to succeed (LLS); 2) leaders likely to fail (LLF); or 3) leaders likely to perform near the mean (LLM).

As we shall see, when leader personalities are evaluated in this way there are compelling differences in their performance and leadership. While the personality dynamics I posit to explain these differences must be substantiated by future data sets, I judge them to be reasonable and likely enough to warrant continued research in this and in other domains and contexts; and to warrant research considering leadership and effectiveness outcomes other than those examined in this study.

Leaders Likely to Succeed (LLSs – as scored by CRT-A & RMS)

While assessing personalities in this part of the sample, it is important to note that we are dealing with two personality variables that are posited as being of unequal importance (i.e. aggression is posited as less important than implicit achievement).

First, consider "aggressive AMs" (AG-AM). AG-AMs graduated at a rate of 54% in a sample where the graduation rate was 40% (see Table 3, p. 70). AG is a strong approach motive with consequences which are often negative or antisocial. AM is another strong approach motive with consequences which are often positive (Allport, 1937; McClelland, 1985; James & Mazerolle, 2002; James & LeBreton, 2012). When coexistent in the same individual in the context of Ranger School, we find a strong approach motive in congruence another strong approach motive; and we find negative consequences dominated by positive consequences. When AMs, in the context of their chosen domain, encounter a situation requiring they achieve important and difficult objectives, they experience arousal, attraction and an implicit desire to approach (i.e. engage) until they have achieved. When AGs encounter a situation or other entity which can be framed as a struggle, fight or conflict, they experience arousal, attraction and an implicit desire to approach/engage in that fight until they have vanquished the foe and/or

inflicted considerable harm (Allport, 1937; McClelland, 1985; James & Mazerolle, 2002; James & LeBreton, 2012). In Ranger School, the AG-AM has been furnished with both an opportunity to achieve and an entity to attack. Briefly stated, the AG-AM is not a personality likely to 'let Ranger school get the best of him' - at least not without a fight. Importantly, and fortunately for AG-AMs, the positive consequences of their strong achievement motive seem to arrest the normally antisocial consequences of their aggression. I suspect, in the context of Ranger School, their strong drive to achieve enables them to embrace a tight-knit in-group (i.e. the squad, their 'Ranger buddies') and channel their aggressive, as well as their achievement oriented energies, toward accomplishing the difficult objectives which will enable them to prevail in what many approach as an epic struggle.

Next, consider "non-aggressive AMs" (nAG-AM). Leaders of this personality type graduated at a rate of 51% in a sample where the graduation rate was 40%. This set of personalities does not have a strong approach motive concerning fights and conflicts but they are not conflict avoidant. While nAGs may not be 'looking for a fight', they are not likely to run from one made necessary. In Ranger school, nAG-AMs find themselves in a situation which may easily be approached as 'a fight made necessary'. Given the similarities between those scored as nAG-AM and those scored as AG-AMs its likely similar personality dynamics are in play. This, in combination with their initial performance data, causes me to classify these personalities in a larger group called 'leaders likely to succeed' (LLSs). That is, in the particular poker being played, we can only see two cards of any given leader's hand. If one of those cards is an AG (or nAG) and the other is an AM, then we are peering over the shoulder of a leader we should bet

on. As we shall see, relative to the other leader personality types we might select, these two are more likely to win.

Leaders Likely to Fail (LLFs – as scored by CRT-A & RMS)

Of those likely to fail, first consider the aggressive FF (AG-FF; graduation rate: 25%). Recall that AG is a strong approach motive with generally antisocial consequences. FF is a strong avoidance motive with generally negative consequences (Allport, 1937; McClelland, 1985; James & Mazerolle, 2002; James & LeBreton, 2012). When coexistent in the same individual in the context of Ranger School, we find a strong approach motive in conflict with a more important avoidance motive; and antisocial consequences compounded by additional negative consequences. FFs, placed in a situation requiring they achieve important and difficult objectives, experience anxiety and an implicit aversion to that situation. Unfortunately, the most likely result of that anxiety (i.e. fear) is that it fuels their aggression (Moyer, 1968). Ultimately, aggressive FFs struggle with an implicit desire to avoid any situation putting them at risk of failure (e.g. Ranger School), while simultaneously being hampered by an antisocial personality ill-equipped to successfully reach out for, or receive social support. When driven by fear-of-failure, aggression is not easily released in ways which are productive or protective of in-group cohesion. These probable dynamics, in combination with the initial performance data, cause me to classify AG-FFs as "leaders likely to fail" (LLFs).

Next consider the "conflict avoidant pro-social non-AM" (CAP-nAM; graduation rate: 23%). CAPs are not emotionally or cognitively prepared to rationalize or justify a long or intense struggle against some enemy entity. When CAPs encounter a situation, person, or an entity which might lead to or be framed as a fight or conflict, they are likely

to avoid framing the situation in that manner. Briefly stated, CAPs are peaceful people. They seek ways to avoid fights/conflicts and framing things as fights and conflicts because situations requiring they engage in a fight or conflict cause anxiety, aversion, and an implicit desire to disengage from and avoid that situation or entity. While nAMs are not FFs, they do lack the strong achievement motive found in AMs (James & Mazerolle, 2002; James et al., 2005; James et al., 2011, in press). In the context of Ranger School, CAP-nAMs are not likely to be dominated by an implicit fear of failure (as FFs would be), nor are they likely to be driven to engage, persevere and overcome (as AMs would be). In fact, since we can only judge by the measures available, it appears the CAP-nAM's only strong implicit motive is to avoid conflict (e.g. 'to live and let live'). If driven by an additional strong implicit motive, CAP dispositions may prove very valuable. But judging by the initial performance data, it appears that leader personalities which might be described as 'live and let live' are not particularly well suited to lead in places where leadership means influencing a group of cold, hungry, exhausted people to accomplish difficult military objectives, under harsh and demanding circumstances. While qualitative personality dynamics like those described above must be substantiated by further research, I believe these to be reasonable. For these reasons, CAP-nAGs join AG-FFs to complete the larger group of personalities labeled LLF.

Leaders Likely to Perform at the Mean (LLMs – as scored by CRT-A & RMS)

Next, consider the "conflict avoidant pro-social AM" (CAP-AM; graduation rate: 41%). Recall that, in the context of Ranger School, the AG-AM's affinity for conflict seems to have been an asset, but when driven by strong achievement motive the CAP's aversion for conflict is not necessarily a liability. Ranger School (unlike direct fire

combat) is ambiguous enough that it can be framed entirely as an opportunity to achieve. Therefore, the CAP-AMs strong approach motive for achievement is not necessarily attenuated by his aversion to fighting (it is merely not enhanced). Further, Ranger School is so team oriented that coexisting CAP and AM motives likely make these personalities valuable as an intra-squad caretakers and peacekeepers. CAP-AMs likely step forward to assist others and to cushion, mitigate and reframe intra-team conflicts between more aggressive individuals. In short, it is possible and likely that a squad full of AG-AMs would not be so successful unless there were also CAP-AMs in the squad. Further, if the situation were direct fire combat, a CAP-AM's strong aversion for fighting and conflict could very well be dominated by his strong pro-social affinity for those around him, combined with his drive to achieve. To rephrase this dynamic in terms common among soldiers, he may fight in spite of his aversion to it 'because he could not bear to fail his comrades'. While symbiotic relationships between certain personality types (and behavioral reactions in combat or other situations) must be substantiated by research, these personality dynamics are reasonably likely. This, in combination with initial performance data indicating the CAP-AM success rate was not strikingly different from the mean, causes me to place them within the larger group: 'leaders likely to perform near the mean' (LLM). Although CAP-AMs are not necessarily more likely than their peers to succeed in Ranger School, this is not necessarily an indication that this set of dispositions should be undervalued.

Now, consider two personalities which are different but engender similar personality dynamics: the "non-aggressive FF" (nAG-FF), and the "conflict avoidant pro-social FF" (CAP-FF). When placed in a situation requiring they achieve important and

difficult objectives, both these personality types are likely to experience the anxiety and implicit aversion which is a characteristic of FFs. But lacking a strong motive to aggress, the nAG-FF is not as ill-equipped (as the AG-FF was) when it comes to reaching out for, and receiving social support. The CAP-FF, on the other hand, is quite well equipped to seek and obtain social support. More important than that, is the likelihood that their implicit fear-of-failure drives them to seek social support and makes them dependent upon it. To explain, people experiencing fear/anxiety seek social support (Taylor et al., 2000; Mawson, 2005; Smith, 2011, pp. 56-57; Radford, in press), and in a team oriented domain such as Ranger school, those equipped to obtain it are better able to manage (and more likely to overcome) their fear of failure.

I suspect it was dynamics like these which enabled both nAG-FFs and CAP-FFs to perform near the mean. However, readers with knowledge of military settings might be quick to point out that in operational environments (e.g. combat) leaders wear rank. In Ranger School, rank is not recognized among squad members - only position, and the leadership positions rotate among the members of the squad. The existence of rank in operational environments means that leaders in those settings inhabit organizational structures which are more hierarchical and social support is not so easy to attain. Briefly stated, leading in combat can be lonely. So leader personalities requiring constant psychological support from subordinates, superiors and peers are less likely to be effective. Also, in operational settings a strong fear-of-failure, aversion-for-conflict (or the combination of both) may impact a would-be leader's ability to 'speak truth to power'. More importantly, these may impact one's ability to discipline (and when necessary, control) certain types of subordinate personalities (e.g. AGs). While

personality dynamics like these must be explored by further research, I believe these to be reasonably likely. These concerns, in combination with the initial performance data, lead me to classify nAG-FFs and CAP-FFs within the larger group known as LLMs.

Next, consider the aggressive non-AM (AG-nAM; graduation rate: 45%). Since we can only judge by the available measures, it appears that the AG-nAM's only strong implicit motive is aggression. In many situations, this is likely to be a disadvantageous motivational profile, but in Ranger School it appears AG-nAMs benefited to a degree from the fact that they are not FFs, and they possess at least one strong, personality-defining approach motive. Unfortunately, in these personalities, it is likely that the antisocial consequences of aggression are not as well arrested by achievement (as we suspect they are in AG-AMs). This is especially concerning because findings indicate that the possession of power 'amplifies' the expression of other motives, traits and attributes (Keltner, Van Kleef, Chen, & Kraus, 2008, pp. 173-174). AG-nAMs may have a disposition which allows them a reasonable probability of success in early leadership positions. But as they ascend to positions of real power, their increasingly unchecked aggression could lead to their derailment (Lombardo, Ruderman, & McCauley, 1988; Chidester et al., 1991; Kellerman, 2004). These concerns combined with their initial performance data lead me to classify them as LLMs.

Finally, consider non-aggressive non-AMs (nAG-nAM; graduation rate: 44%). In these personalities the available measures have identified no strong implicit motives. These people are not especially aggressive or conflict avoidant; nor are they especially driven by achievement or fear of failure. In these cases, given the measures available, it is difficult to postulate a set of personality dynamics pointing to an increased (or decreased)

likelihood of success or failure, relative to the mean of their similarly situated peers. This, combined with the initial performance data, causes me to classify them as LLMs.

Trends & Findings Based on Configural Scoring of Leader Personalities (*N*=212)

Analyzing the data in light of the configural scoring paradigm described above, readers will notice certain trends. For example, no level of aggression combines with fear-of-failure to raise the rank of FF personalities higher than LLM. Similarly, no level of aggression combines with a strong achievement motive to lower the rank of AM personalities lower than LLM. Also, leaders labeled 'likely to succeed' (LLS) are two personalities and comprise 25.5% of the sample (see Table 3, p. 70). Those labeled 'likely to fail' (LLF) are also two personalities, and comprise 24% of the sample. The subset labeled 'likely to perform at the mean' (LLM) contains five personalities, constituting the remaining 50.5% of the sample. These descriptive statistics make sense in that we might expect only a subset of personalities to be better equipped to lead in this domain. Similarly, we might expect a subset of similar size to have personality flaws inhibiting their leadership. Finally, we might expect a sizable subset to have personalities which are largely benign relative to those of their higher and lower-performing peers.

Attrition

Turning our attention to evaluating differences in attrition across these groups, chi square analyses indicate that the odds an LLS would graduate were more than 3.5 times those of an LLF, χ^2 (2, *N*=212) = 9.016, p = .011 (see Table 5, p. 70). Further, the odds an LLS would be dismissed from the course for poor leadership of missions were zero. That is, not one LLS was dismissed from the course for this reason. But LLMs were relieved from the course for poor mission leadership at a rate of 5.6%, and LLFs were relieved at

a rate of 11.8%. That is, the odds of an LLF being removed from the course for poor mission leadership were 2.3 times that of an LLM, χ^2 (2, *N*=212) = 6.79, *p* = .033 (see Table 6, p. 71). This finding becomes even more compelling when we account for the fact that many were attrited from the course before they ever had a chance to lead a patrol. If we repeat this analysis considering only the 112 leaders who survived long enough to lead a patrol, we see that LLMs were relieved from the course for poor mission leadership at a rate of 10.9%, and LLFs were relieved at a rate of 25%. That is, the odds of an LLF being removed from the course for poor mission leadership were 2.73 times that of an LLM, χ^2 (2, *N*=112) = 9.08, *p* = .011 (see Table 6b, p. 71).

Similar findings revealed the odds that an LLS would quit the course were zero (i.e. not one LLS quit), where the odds of an LLF quitting were seven times that of an LLM, χ^2 (2, *N*=212) = 5.96, *p* = .051 (see Table 7, P. 71). Additionally, not one LLS was relieved from the course for cheating or other egregious conduct. But LLMs were relieved for this reason at a rate of 2.8%, and LLFs at a rate of 9.8%. The odds of an LLF being relieved for egregious conduct were 3.75 times that of an LLM, χ^2 (2, *N*=212) = 7.5, *p* = .023 (see Table 8, p. 72).

Finally, since the Ranger School commander often cites multiple reasons for dismissing a leader from the course, I summed the number of reasons cited for each leader to create a ratio scale dependent variable. I analyzed each leader's 'number of reasons cited for dismissal' in an ANOVA to assess group differences. On average, LLFs and LLMs were dismissed for a significantly higher number of reasons than LLSs, *F*(2, 212) = 5.348, *p* = .005 (see tables 9 and 10, p. 72). Planned repeated contrasts revealed that, while LLFs did not significantly differ from LLMs (95% CI for the difference [-

.051, .374], p = .135), on average both LLFs and LLMs were dismissed for a significantly higher number of reasons than LLSs were (95% CI for the difference between LLMs and LLSs [.029, .446], p = .025).

But leader personality did not predict differences in every kind of attrition. Chi-square analyses indicated no difference across groups in the odds of: 1) being 'peered' out of the course, χ^2 (2, N=212) = 1.18, p = .554[12]; 2) failing a required event during 'Ranger Assessment' (e.g. the 5-mile run, or night orienteering test), χ^2 (2, N=212) = 2.255, p = .324, and 3) being removed from the course for medical reasons, χ^2 (2, N=212) = .807, p = .668. See Tables 11-13, pp. 72 and 73.

Leader Performance

Regarding leader performance, we've already seen in the attrition analyses that the odds a leader would be dismissed from the course for poor mission leadership depended upon his personality (see p. 38-39). But the odds a leader would pass a given phase of the training also depended on his personality. That is, the odds an LLS would pass a given phase of the training were 2.25 times better than those of an LLF, χ^2 (2, N=468) = 8.92, p = .012 (see Table 14, p. 73).

Peer Evaluations

With respect to peer evaluations, the attrition analyses already indicated that the odds of being 'peered out' of the course were not significantly related to leader implicit

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[12] Note: If we repeat this analysis considering only the 112 leaders who survived long enough to face a peer evaluation, the difference is still statistically insignificant, χ^2 (2, N=112) = 1.28, p = .529.

personality (see p. 40). But interestingly, the odds a leader would pass a given peer evaluation did depend on his personality (i.e. the odds an LLS would pass a given peer evaluation were 4.15 times better than those of an LLF, χ^2 (2, N=356) = 6.42, p = .04; see Table 15, p. 74). The fact that LLFs were more likely to fail any given peer evaluation but were not more likely to be removed from the course for that reason, reflects that the decision to remove a leader from the course is administrative, involving other factors. For example, if a leader fails his peer evaluation but receives a passing grade on at least one of the patrols he led in that phase, he is likely to be recycled rather than removed. Peer evaluation failures normally only result in removal when they are repeated, or if a single peer evaluation failure is combined with poor leadership of patrols.

Summary of Findings (CRT-A & CRT-RMS, N=212)

The analyses conducted on this part of the sample indicate that: a) implicit personality is predictive of leader performance, peer evaluations, and attrition in the US Army Ranger School; and b) the alternative analysis (i.e. configural scoring) yielded findings that were misrepresented or hidden by the linear and interactive logistic regressions conducted on the continuous personality scores.

Further, when we assess the impact over time (i.e. from the beginning of the course to the end) the relationships between implicit personality and the odds of leader success in Ranger School are apparent. An inspection of Figure 4 (on p. 74) reveals that, regardless of personality, the first three days of Ranger School are unforgiving. These first days (known as "Ranger Assessment") attrited approximately 40% of the LLSs, and over 60% of the LLFs. But for the implicit personalities labeled 'likely to succeed' attrition after that point was

minimal. In contrast, the ranks of those labeled 'likely to fail' continue to dwindle throughout the course.

In the end, the personality composition of the group of leaders who graduated was significantly altered relative to the group which began the course. On "Day 0", LLSs were roughly equal in number to the LLFs, and LLMs made up the other half of the class. But, of those still standing on graduation day, we find that LLMs still accounted for roughly half the graduates, while the portion of LLSs grew substantially, and the portion of LLFs was significantly diminished (see Figure 5, p. 75).

CHAPTER 4

RESULTS & DISCUSSION (CRT-L & RMS, *N*=415)

In the part of the sample that took CRT-L and CRT-RMS, raw scores on CRT-L ranged from -5 to +6 (M = 0.22, SD = 1.97; see histogram at Appendix C). Raw scores on CRT-RMS ranged from -8 to +16 (M = 6.9, SD=4.7; recall that the histogram for CRT-RMS is at Appendix B). Interestingly, scores on the measure of the power motive (i.e. CRT-L) were significantly correlated with scores on the measure of achievement motive (i.e. CRT-RMS), $r(413) = -0.132$, $p = .007$.

A logistic regression of graduation on CRT-L, RMS, and the interaction term yielded a model which was significantly better than the 'intercept only' model, χ^2 (3, N=415) = 9.07, $p = .028$. Table 16 (on p. 77) shows the logistic regression coefficients, Wald tests, and odds ratios for each of the predictors. With the larger sample size (i.e. N=415), the effect of individual differences in achievement motive is statistically significant. That is, for every one point increase in achievement motive, leaders were approximately 1.07 times more likely to graduate. So, if one's odds of graduation were 1.0 (i.e. "50-50"), then the odds for someone else, whose achievement motive is approximately one standard deviation higher (e.g. 4 points), would be 1.3 (or 56.5%). But the regression analysis finds the impact of the power motive, and its interaction with achievement motive, to be statistically insignificant. Again, at this point most studies would stop, likely concluding that the impact of differences in implicit personality is not particularly compelling. But what happens if we assess the scores on CRT-L and RMS as one would assess a poker hand? As it turns out, the findings are quite different.

Poker and the Assessment of Leader Personalities with CRT-L & RMS

In this part of the sample, I wish to use the available measures to quantify the personalities of the 415 Ranger students who took CRT-L and CRT-RMS. As before, we can apply our knowledge of the individual differences and the domain to propose and test a set of reasonable cutoff scores and channeling rules. For example, we have reason to believe personalities driven by an implicit power are more likely to succeed in this leadership domain. This in mind, we consult the distribution of scores on CRT-L and set a cutoff score. If CRT-L is greater than or equal to 4, we classify that individual as driven by power and refer to him as a "PO". If CRT-L is less than or equal to -1, we classify that individual as submissive and refer to him as an "SU". If the score on CRT-L is between 0 and 3, we consider that individual to be in the middle and refer to him as neither a PO nor an SU (i.e. "nPO"). In this leadership domain, implicit power as measured by CRT-L, is posited as a 'more important' variable. The cutoff scores for CRT-RMS are already set (see p. 29).

With reasonable cutoff scores in place, we must now consider the channeling rules that describe how the aspects of a multifaceted person combine to predict the odds of leader success in this domain. A two-way ANOVA was carried out to gain an understanding of the initial performance data for each of the nine personalities conceptualized by the factorial combination of the three-levels of power and the three-levels of achievement motivation. While the ANOVA indicates that only achievement motivation is a significant predictor of graduation, researchers with knowledge of these individual differences and the domain see differences in performance across personality types that are both compelling and explainable (see Figure 7 and Tables 17 & 18 on p. 77

and 78). Here again, leader personality types are judged based on the likely personality dynamics and initial performance data, and labeled as leaders likely to succeed (LLS), fail (LLF), or perform at the mean (LLM).

Leaders Likely to Succeed (LLSs – as scored by CRT-L & RMS)

First, consider "power-driven AMs" (PO-AM). PO-AMs graduated at a rate of 56% in a sample where the graduation rate was 33% (see Table 17, p. 78). PO is a strong approach motive with social consequences which remain controversial (Allport, 1928; Winter, 1973; Kipnis, 1976b, 1976a; Winter, 2002; Overbeck, 2010). As discussed in Chapter 3, AM is strong approach motive with consequences which are often positive (Allport, 1937; McClelland, 1985; James & Mazerolle, 2002; James & LeBreton, 2012). Recall that when AMs, in the context of their chosen domain, encounter situations requiring they achieve important and difficult objectives, they are likely to experience arousal, attraction and an implicit desire to approach (i.e. engage). POs function similarly in that, when placed in a situation affording them the opportunity to take control, be influential or assume responsibility, they are likely to experience arousal, attraction and an implicit desire to approach/engage (Allport, 1937; Winter, 1973; McClelland, 1985). POs are not necessarily driven by responsibility itself but in the context of their chosen domain, will seek and accept it in order to gain the power (James et al., 2011, in press).

In Ranger School, PO-AMs encounter both an opportunity to achieve, and situations requiring they lead (e.g. take control, be influential and accept responsibility). PO-AMs are cognitively and emotionally prepared for both of these aspects of the Ranger School experience. They are implicitly comfortable with power, driven to take charge,

and focused on accomplishing that which others are either unwilling or unable to do. All things being equal, the PO-AM is a leader we should bet on.

Next, consider two personalities: the "non-PO AM" (nPO-AM; graduation rate: 46%); and the power-driven non-AM (PO-nAM; graduation rate: 40%). The nPO-AM does not have a strong power motive but, as described above, is not submissive. That is, they may not seek power/responsibility, but neither do they experience a strong implicit aversion to it. In contrast, the PO-nAM does not have a strong achievement motive, but as described above, is no FF. That is, they may not be driven to achieve, but neither do they have a strong aversion to situations putting them at risk of failure. Given the similarities between these two personalities and the previously described PO-AM, it is likely that similar personality dynamics are in play. That is, in Ranger School, leaders of these three personality types find themselves in a situation which matches their dispositions reasonably well. This in combination with the initial performance data causes me to classify these three personalities as LLS. That is, in this particular poker game, we can see only two cards of any given leader's hand. If one of those cards indicates a strong approach motive of either type (PO or AM), and the other card is not at a level which is a disability then we are peering over the shoulder of a leader we should bet on. Again, relative to the other personality types we might select, these three are more likely to win.

Leaders Likely to Fail (LLFs – as scored by CRT-L & RMS)

Of those likely to fail, first consider the "submissive FF" (SU-FF; graduation rate: 23%). Recall from Chapter 3 that, when placed in a situation requiring they achieve important and difficult objectives, FFs experience anxiety, implicit aversion and are

driven to avoid or escape that situation. SUs function similarly in that, when placed in a situation affording them the opportunity to take control, be influential and accept responsibility, they are likely to experience anxiety, aversion and an implicit desire to avoid or escape that situation (James et al., 2011, in press). Briefly stated, SUs are like POs, but in reverse. In POs: strong implicit needs for power/control drive them to seek and accept positions of responsibility. In SUs: a strong aversion for responsibility (i.e. their implicit fear of being held responsible) drives them to seek subtle, socially acceptable ways of allowing power to pass to others (i.e. those more willing to shoulder the responsibility).

The fact that 30 of 415 incoming students at the US Army Ranger School were SU-FFs could be interpreted as a lack of self-insight. There are those who, while pursuing other motives, have unwittingly convinced themselves and others they are leaders (or simply find themselves in positions that require they lead). These 'pseudo-leaders' may be high in relevant abilities, and may have any number of excellent attributes but their implicit motives are not those of an effective leader – especially not 'at the sharp end of the spear'. Leaders like these are often tolerated in mundane settings but under stress (or when lives are at risk) they are more likely to fail because, implicitly, they are conforming and avoidant - not only of power/responsibility but also of any situation putting them at risk of failure.

Next, consider the "power-driven FF" (PO-FF; graduation rate: 25%). When PO & FF are combined in the same individual, we find an important approach motive in conflict with an important avoidance motive. PO-FFs likely vacillate between being driven by their need to be important, have power and be in control; and their implicit

aversion to situations placing them at risk of failure. PO-FFs are likely most satisfied when exercising authority in relatively unimportant contexts. In laymen's terms, they are well-suited to be 'big fish in small ponds'. While the military, like any large bureaucracy, can surely find organizational roles to accommodate this personality disposition, it appears (i.e. judging from the initial performance data) that leading US Army Rangers is not one of them.

Finally, consider the "non-PO fear-of-failure" (nPO-FF; graduation rate: 25%). In view of the preceding two personalities, the nPO-FF might be described as residing somewhere between 'flawed' and 'inferior'. Taken together, these three personalities are an excellent illustration of the poker paradigm. On page 26-27, I described how a poker card that would normally be considered an important strength can be meaningless if it is held in combination with certain weaknesses. These three personalities demonstrate that phenomenon: if a leader is an AM being a PO is an important advantage. But if an FF, one's level of power motive is relatively meaningless (see Figure 7, p. 77). While qualitative personality dynamics like those described in this section must be substantiated by further research, I believe these are reasonable. This combined with initial performance data causes me to classify these three personalities as LLFs.

Leaders Likely to Perform at the Mean (LLMs – as scored by CRT-L & RMS)

Of those likely to perform at the mean, first consider the "submissive AM" (SU-AM; graduation rate: 31%). SU-AMs benefit to a degree from their strong need for achievement. Their implicit aversion to responsibility means they are likely to rationalize the act of allowing power to pass to others, but they are likely to be eager, hardworking and participative individuals. When they are appointed formal leader, informal power

structures are likely to become more important determinants of organizational performance. They are likely mission focused, with subordinates who feel empowered, but they are likely to be indecisive under pressure - especially when the way forward is unclear, controversial or the moment requires they personally make a decision for which they alone will be held responsible. That said, when the other members of the squad were appointed formal leader, they were likely confident, cooperative, likeable team players.

Next, consider the "submissive non-AM" (SU-nAM; graduation rate: 30%). In this domain, SU-nAMs are not strikingly dissimilar from SU-AMs. They may lack a strong achievement motive, but they are not FFs. Briefly stated, it appears their moderate level of achievement motivation makes the SU-nAM a mixed bag in ways which are likely similar to that described for the SU-AM.

Finally, consider the non-PO non-AM (nPO-nAM; graduation rate: 31%). In these personalities, the available measures identified no strong implicit motives. They are not especially driven by power, nor are they especially averse to it. They are not especially driven by achievement, nor are they dominated by a fear of failure. In these cases, given the measures available, it is difficult to postulate a set of personality dynamics pointing to an increased (or decreased) likelihood of success or failure, relative to the mean of their similarly situated peers. While the qualitative personality dynamics I've described regarding the three preceding personalities must be substantiated by further research, I believe them to be reasonable. This combined with the initial performance data leads me to classify them as LLMs.

Trends & Findings Based on Configural Scoring of Leader Personalities (*N*=415)

Analyzing the data in light of the configural scoring paradigm described above, readers will notice certain trends. For example, those labeled 'likely to succeed' are three personalities and comprise 25.8% of the sample (see Table 17, p. 78). Those 'likely to fail' are also three personalities, and comprise 28.4% of the sample. The subset labeled 'likely to perform at the mean' also contains three personalities, constituting the remaining 45.8% of the sample. As in Chapter 3, these descriptive statistics make sense in that we might expect only a subset of personalities to be better suited to lead in this domain. Similarly, we might expect a subset of similar size to have personality flaws that inhibit their leadership. Finally, we might expect a sizable subset to have personalities which are largely benign, relative to those of their higher and lower-performing peers.

Attrition

Turning our attention to evaluating differences in attrition across these groups, chi square analyses indicate that, in this part of the sample, the odds that an LLS would graduate were more 2.6 times those of an LLF, χ^2 (2, *N*=415) = 12.27, *p* = .002 (see Table 19, p. 78). The odds that an LLF would be dismissed from the course for medical reasons were 5.4 times that of an LLS, *L.R.*(2, *N*=415) = 6.54, *p* = .038 (see Table 20, p. 79).[13] To appreciate this difference, one must realize that during the physically brutal 61 days of Ranger School, it is difficult to find an individual who (in addition to hunger, muscle

[13] In this analysis χ^2 (2, N=415) = 5.51, *p* = .06. Typically, the Likelihood Ratio and Pearson chi-squares agree. But they do not in this particular analysis because the Pearson assumes all the variables are categorical. Since here the predictor (3 levels) and the outcome variable (2 levels) are both ordinal, the Likelihood Ratio is actually the more appropriate, more powerful test (Wickens, 1989; Aspelmeier & Pierce, 2009). For the sake of detail: the linear-by-linear association test value was 5.2 on 1 d*f*, *p* = .02.

fatigue and sleep deprivation) is not also struggling daily with one or more sprains, pains or other sicknesses. But (as high school football coaches often tell their players) one can perceive himself as 'hurt' (translation: 'I can still play') or one can perceive himself as 'injured' (meaning 'I cannot'). Sometimes perceptions of injury are veridical. Sometimes they serve as socially acceptable excuses to go sit on the sideline (i.e. to escape this physically and psychologically uncomfortable situation). For example: early in the course one participant (an LLS from a large southern state) contracted a medical condition which is common among soldiers in the field who endure physically demanding tasks without the benefit of a daily shower. The medical term is "Scrotal Celulitis" but its moniker among soldiers is 'crotch rot'. He sought medical attention but as the condition grew more painful, would not leave the course. You can imagine the horror of medical providers when they realized his case of scrotal celulitis had blossomed into a case of Methicillin-Resistant Staphylococcus Aureus (MRSA).[14] This southerner was an extreme AM (combined with nPO), and even after being fully informed of the threat (see footnote), he only left the training because the commander ordered his removal and promised he could return after the threat of scrotal amputation had been abated. In contrast, LLF medical drops commonly left the course for medical reasons that were not specifically annotated in their training records. As the likelihood ratio chi-square of the data clearly indicates, sometimes the distinction between a self-perception of 'hurt' vs. 'injured' depends on one's implicit personality.

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[14] MRSA is a serious and debilitatingly painful infection, caused by a strain of staph bacteria that's become resistant to the antibiotics commonly used to treat ordinary staph infections. If treatment of MRSA is not timely and aggressive, it can result in the amputation of the afflicted appendage.

During the first three days of Ranger School, a particularly unforgiving form of attrition takes place known as 'Ranger Assessment'. During 'assessment', students complete a series of events designed to test physical fitness and technical job proficiency (e.g. a physical fitness test, survival swimming test, day and night wilderness orienteering tests, a 5-mile run, 12-mile foot march, and two challenging obstacle courses). Physical ability is important, but whether or not one survives assessment is also a function of how well that person prepared themselves during the months prior to Ranger School. Chi-square analyses indicate that the odds an LLF would be removed from the course within the first 3-days were more than 3.5 times that of an LLS χ^2 (2, N=415) = 20.93, $p < .001$ (see Table 21, p. 79). Finally, since the Ranger School commander often cites multiple reasons for dismissing a leader from the course, I summed the number of reasons cited for each leader to create a ratio scale dependent variable. I analyzed each leader's 'number of reasons cited for dismissal' in an ANOVA to assess group differences. On average, LLFs and LLMs were dismissed for a significantly higher number of reasons than LLSs, $F(2, 415) = 7.721$, $p = .001$ (see tables 22 and 23, on p. 79). Planned repeated contrasts revealed that, while LLFs did not significantly differ from LLMs (95% CI for the difference [-.052, .239], $p = .205$), on average both LLFs and LLMs were dismissed for a significantly higher number of reasons than LLSs (95% CI for the difference between LLM and LLS [.078, .378], $p = .003$).

While implicit personality was related to these 4 dependent variables describing graduation and attrition, in the other 4 variables I found no statistically significant relationship. In this part of the sample, chi-square analyses indicated no difference across groups in the odds of: 1) being dismissed from the course for poor leadership of mission

patrols, χ^2 (2, *N*=415) = 1.277, *p* = .528; 2) quitting, χ^2 (2, *N*=415) = .392, *p* = .822; 3) being 'peered' out of the course, χ^2 (2, *N*=415) = 1.87, *p* = .393; or 4) being removed from the course for cheating or other egregious conduct, χ^2 (2, *N*=415) = 2.466, *p* = .291. See Tables 24-27, on pp. 80 and 81.[15]

Leader Performance

We've already seen in the attrition analyses that the odds a leader would be dismissed from the course for poor mission leadership did not depend upon his personality (see above). But the odds a leader would pass a given phase of the training did depend on his personality. That is, the odds an LLS would pass a given phase of the training were 2.25 times better than those of an LLF, χ^2 (2, *N*=785) = 16.762, *p* < .001 (see Table 28, p. 81).

Peer Evaluations

With respect to peer evaluations, the attrition analyses already indicated that the odds of being 'peered out' of the course were not significantly related to implicit personality (see above). But, in this part of the sample, the odds a leader would pass any given peer evaluation also did not depend on his personality, χ^2 (2, *N*=538) = .671, *p* = .715; see Table 29, on p. 81).

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[15] To parallel the analyses in Chapter 3, if we repeat the chi-square of attrition due to leadership failure (and peer evaluation failure) considering only the 198 leaders who survived long enough to lead a patrol (and face a peer evaluation) then the difference is still statistically insignificant, χ^2 (2, N=198) = .163, *p* = .922 (for peer evaluation failure, χ^2 (2, N=198) = .767, *p* = .681).

Summary (CRT-L & CRT-RMS, *N*=415)

The analyses conducted above indicate that: a) implicit personality is predictive of leader performance and attrition, but was not significantly related to peer evaluations in this part of the sample; and b) the 'configural scoring' analysis again yielded findings that were misrepresented or hidden by the linear and interactive logistic regressions conducted on the continuous personality scores. Comparing these results to those from the other sample (see Chapter 3), it is not clear why, for example, differences in the odds of 'attrition due to peer evaluation failure' were significant in the smaller sample (where aggression was a predictor) but not significant in the larger sample (where the power motive was a predictor). This may simply be due to the fact that the measure of power motive (CRT-L) is in a much earlier stage of development than either CRT-A or CRT-RMS. Then again, it may suggest that leader personalities flawed for reasons involving aggression (or conflict avoidance) are likely to be identified by the people around them, but those flawed for reasons involving power (or submissiveness) are more likely to fail for other reasons.

In conclusion, as we saw in Chapter 3, when viewed over time the relationships between implicit personality and the odds of leader success are apparent (see Figure 8, p. 82). Further, when we compare the personality composition of the group of leaders who graduated to that which began the course, we see that on 'Day 0', LLSs were roughly equal in number to the LLFs, and LLMs made up nearly half the class. But of those still standing on graduation day, LLSs equal LLMs, and the portion of LLFs has been significantly diminished (see Figure 9, p. 83).

CHAPTER 5

SUMMARY, LIMITATIONS, & FUTURE RESEARCH

This study measured the implicit personalities of 627 leaders entering the military's most challenging and stressful combat leader development course. These 627 leaders were divided in two sub-samples: one sample of 212 and another of 415. Assessing the empirical results across both samples, it is clear that the 18 different personality types described by combinations of scores on CRT-A and RMS (in the sample of 212), and CRT-L and RMS (in the sample of 415) systematically differed in their leadership and attrition. Further, in the sample of 212, implicit personalities also differed in the evaluations received from their peers during the course.

Further, alternative analyses demonstrated that these findings would have been misrepresented or hidden by linear regressions conducted on continuous scores. As an alternative, I presented a configural scoring scheme, couched in a poker analogy, to explain how these individual differences combine to predict the odds of success of each of the 18 personality types studied. Scoring personalities in this way is an inherently interactional approach, as it requires knowledge not only of individual differences, but also of the way they play out in the domain. Situational, follower, and organizational differences might mean that predicting effective leaders in one domain requires we evaluate (for example) eight predictors, where some other domain may require fewer or different predictors. One example that comes to mind is, if we were to switch from predicting effective leaders for elite military forces to predicting effective leaders in typical office environments, then the importance of physical aptitude would drop in

importance from ‘more important’ to 'largely irrelevant'. Similarly, if selecting someone to lead a team of diplomats seeking to avert (or end) a war, perhaps a CAP-AM would have the highest odds of success. But this is nothing new to poker. Rules can change from one variation of the game to another, and sometimes even deuces are wild. That does not change the possibility that an understanding of leadership, like an understanding of poker, can be built upon a single underlying system of ordinal measurement, and a set of channeling rules that is alterable to describe different variations of the phenomenon.

Regarding the measurement of predictors, conditional reasoning is both valuable and exciting for those who study leadership. Future research should focus on continued development of CRT-L. I anticipate more fascinating results as improved versions of this measure are employed. Ongoing work to develop a conditional reasoning test for narcissism/selfishness vs. humility is also worthwhile and exciting. However, conditional reasoning is probably not a panacea.[16] It seems most promising when psychologists seek to differentiate between people who are dispositionally driven by one of two, diametrically opposed but fundamental human motives. Additionally, it is especially effective when at least one of the motives under scrutiny is a personality disposition people are likely to hide from themselves and/or others. When one’s dispositions are largely unstated, unrecognized or unconscious, an indirect approach is likely to yield better measures than direct self-reports (Nisbett & Wilson, 1977; Funder, 1980; McClelland, Koestner, & Weinberger, 1989; Leary & Kowalski, 1990; John & Robins,

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[16] For example, the Army Research Institute (ARI) largely failed in its attempt to develop a conditional reasoning measure of ‘team orientation’ (see O'Shea, Driskell, Goodwin, Zbylut, & Weiss, 2004).

1994; Schmit, Ryan, Stierwalt, & Powell, 1995; Barrick & Mount, 1996; Rosse, Stecher, Miller, & Levin, 1998; Ellingson, Sackett, & Hough, 1999; Schwarz, 1999; Snell, Sydell, & Lueke, 1999; Zickar & Robie, 1999; Jo, 2000; Dunning, Heath, & Suls, 2004; Birkeland, Manson, Kisamore, Brannick, & Smith, 2006; Holden, 2007; Morgeson et al., 2007; Ones, Dilchert, Viswesvaran, & Judge, 2007).

Meanwhile, new data sets are needed to validate and improve the poker paradigm as a system for scoring leader implicit personality (and eventually other individual differences) as predictors of effective leadership in stressful (and eventually in dangerous) military settings. Still other data sets might explore the similarities and differences between the ways implicit motives and other individual differences interact to predict leadership in stressful military settings and the way these might interact to predict leadership in other domains.

Interestingly, in the domain studied here, the poker paradigm identified only one of the three measured constructs as a simple and unconditional leadership asset: achievement motive. In contrast, strong power motives were observed to be important assets in those with coexistent achievement motives, but meaningless in those dominated by fear of failure. Aggression, if assessed alone, had a curvilinear relationship with leadership effectiveness such that the moderately aggressive were more likely to be effective than either the highly aggressive or the conflict avoidant. But, in the context of the right poker hand, extremely high or low levels of aggression could be either an asset or a liability. Specifically, highly aggressive, high achievement motive individuals were likely to be effective, but aggression combined with fear-of failure appears to be the mark of a leader likely to fail. Similarly, a conflict avoidant/pro-social disposition combined

with a strong achievement motive is suspected to identify individuals who are probably essential to the establishment and maintenance of functional intrapersonal norms and processes within elite military teams. But the same conflict avoidant/pro-social disposition in individuals without a strong achievement motive meant they were likely to fail. When it comes to understanding the individual differences profiles of people who are likely to be effective leaders in a given domain, I suspect we have yet to fully grasp how predictor variables rank in importance. Nor have we fully investigated how those variables (and ranges of scores on those variables) channel each other to describe a person that we should bet on versus someone who is, in all probability, a loser.

But we can start by proposing and testing a set of cutoff scores and channeling rules that we think are reasonable in the given domain. Having applied this approach to study leaders in a challenging and stressful military setting, I believe it is quite promising. Overall, I think these findings argue that individual differences can be reliable predictors of leader effectiveness. As in poker (where a royal flush is reliably considered 'the nut hand'), a leader with four kings (e.g. intellectually gifted, driven by achievement and power, with a lot of domain specific knowledge) is a solid bet in most situations. This being the case, future systems for the prediction of effective leaders should acknowledge, and include both measures and features to account for the fact that effective leaders are not only "born" and "made" but also exist within specific domains.

While the results of this study are encouraging, they must be interpreted in the context of the study's limitations. First, even if additional data sets validate, augment and improve the prediction system, it would not technically prove that these individual differences are a cause of effective leadership in this domain. Predictive relationships

exist, but use of the word "cause" will require research employing different methodologies and/or analyses. This is a significant issue, as the phenomenon tends to be obscured by statistical analyses employing linear combinations and partial regression coefficients. This being the case, causal SEM models (for example) may not be a viable solution. At this time, this is a methodological issue I am not sure how to solve.

A second limitation of this study is its reliance on perceptual measures. Each participant's leadership position grades and peer evaluations depended on the perceptions of raters. While perceptual measures are flawed, they are meaningful, especially when they are provided by raters with the knowledge and opportunity to make expert judgments (Feldman, 1986, 1994). Also, in a study such as this, the validity of such judgments is not likely to be replicated or exceeded by any reasonably attainable set of objective, analytic performance measures (Feldman, 1992). Further, these measures have practical significance, as they determine real outcomes (i.e. leaders graduated or not based in large part on the perceptual measures obtained from their RIs and squadmates). Finally, in other research when similar raters made similar judgments, the perceptual measures had better validities than a set of carefully chosen objective measures (Goldstein & Bartlett, 1977; Goldstein & Ford, 2002, p. 156)[17].

Thirdly, the extreme demands of this combat leadership course have been interpreted to underwrite the assumption that students are in a stressful and *relatively* dangerous environment. This assumption does not hold during every moment of the 61-

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[17] Police academy graduates were asked 'Which five members of your recruit class would you most like to have as your back up if you were to find yourself in a dangerous situation'. Participant responses predicted subsequent job performance better than the grades recruits received during their police academy training.

day course, and it may not hold for all participants. In a manner similar to 'situational strength' (see Smith, 2011), 'stress' and 'danger' are best defined as characteristics of a person in a situation. Tasks that are stressful or dangerous for one (e.g. a novice soldier) may be less so to another (e.g. an expert soldier).[18] In a given environment, the former may experience fear or be performing at maximum capacity, while the latter is unconcerned and comfortably pacing himself. Yet, environments exist which elicit significant perceptual agreement (i.e. while reactions vary across individuals, all participants feel significantly challenged and realize they are participating in tasks which, if performed poorly, could result in serious injury or death). Given the demands of Ranger School (described on pp. 12-14), the latter description is the more valid. While individual perceptions of stress and danger are dynamic across individuals and situations, an exploration of that important topic is beyond the scope of this study.

Finally, while results support an interactionist theoretical perspective, important individual differences went unmeasured (e.g. domain relevant knowledge and abilities). In addition, the research design did not measure or manipulate the situation. This study cannot validate an overarching interactionist theory of effective leadership. But it does offer evidence that implicit personality is predictive of individual leadership and attrition during an extremely stressful military combat leadership course. This evidence argues for a more purposeful investigation of fundamental individual differences as part of an interactionist theory for predicting effective leadership in this and in other domains.

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[18] Kolditz, T.A. (personal communication, January 30, 2011). Also see Kolditz (2007, p. xvi).

APPENDIX A

The US Army Ranger School Peer Evaluation Scoring System

1.1 Peer Evaluations

1.1.1 6-5-1. Purpose

a. To provide guidance for the academic criteria for, execution of, and counseling regarding, the student end of phase Peer Reports.

1.1.1 6-5-2. Execution

a. The United States Army Ranger School Peer Evaluation System as adopted by the Ranger Training Brigade, April 2000 as follows:

b. Methods and Principles:

(1) The Peer Evaluation System (PES), (**Figure 6F and 6G**) evaluates an individual Ranger student performance in comparison to that Ranger's peers' performances within their squad.

(2) The methodology employs a modified numerical scale peer ranking system (forced distribution) based on the principles of the Ranger creed to pinpoint reasons for success/failure and used to identify and track individuals "on the bubble." It is a collated system of all peer scores within the squad highest to lowest, allowing for identification of performance trends throughout Ranger training.

Figure 6F

Peer Evaluation System

	NUMBER OF RANGERS IN THE SQUAD								
	8	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1
3	0	0	0	1	1	1	1	1	1
4	0	0	0	0	0	0	0	1	1
5	0	0	0	0	0	0	0	0	0
6	-1	0	0	0	0	0	0	0	0
7	-1	-1	0	0	0	0	0	0	0
8		-1	-1	-1	0	0	0	0	0
9			-1	-1	-1	0	0	0	0
10				-1	-1	-1	0	0	0
11					-1	-1	-1	-1	0
12						-1	-1	-1	-1
13							-1	-1	-1
14								-1	-1
15									-1

Figure 6G

Peer Evaluation System

	NUMBER OF RATING SQUAD MEMBERS								
	7	8	9	10	11	12	13	14	15
15									100
14								100	98
13							100	98	97
12						100	98	98	95
11					100	98	96	95	93
10				100	98	96	91	93	92
9			100	98	96	91	92	91	90
8		100	97	95	93	92	90	89	88
7	100	97	94	93	91	90	88	88	87
6	96	94	92	90	89	88	87	86	85
5	93	91	89	88	86	85	85	84	83
4	89	88	86	85	83	83	83	82	82
3	86	84	83	83	82	81	81	80	80
2	82	81	81	80	80	79	79	79	78
1	79	78	78	78	77	77	77	77	77
0	75	75	75	75	75	75	75	75	75
-1	71	72	72	73	73	73	73	73	73
-2	68	69	69	70	70	71	71	71	72
-3	64	66	67	68	68	69	69	70	70
-4	61	63	64	65	66	67	67	68	68
-5	57	59	61	63	65	65	65	66	67
-6	54	56	58	60	61	63	63	64	65
-7	50	53	56	58	59	60	62	63	63
-8		50	53	55	57	58	60	61	62
-9			50	53	55	56	58	59	60
-10				50	52	54	56	57	58
-11					50	52	54	55	57
-12						50	52	54	55
-13							50	52	53
-14								50	52
-15									50

(3) The PES Form (**Figure 6H**) provides a scale by which Rangers must numerically rank their peers within the squad, and also requires commentary on an individual Ranger's performance relative to the principles of the Ranger Creed.

Figure 6H

PEER EVALUATION FORM

Ranger Rated _____ Roster # _____

Company _____ Platoon _____ Squad _____

Use criteria below in comments concerning this Ranger's performance in training

INITIATIVE _____

DEPENDABILITY _____

TEAMWORK _____

ATTENTION TO DETAIL _____

TACTICAL KNOWLEDGE _____

PHYSICAL STAMINA _____

FORWARD ○ (Forward to next phase/Graduate)

RECYCLE ○ (Recycle this or previous phase)

DROP ○ (Drop from Ranger School)

PEER RANKING

RANK THIS RANGER WITHIN THE SQUAD FROM BEST TO WORST. ONLY ONE NUMBER PER RANGER WITHIN THE SQUAD. THIS WILL DETERMIN THE RANGERS STATUS IN THE COURSE.
(EXAMPLE) THERE CAN BE ONLY ONE RANGER RATED NUMBER ONE IN THE SQUAD. BLACKEN THE APPROPRIATE NUMBER

1 2 3 ●

1 BEST
2
3
4
5
6
7
8
9
10
11
12
13
14
15 WORST

Rater's Roster #_____
(Your Roster #)

(RI USE ONLY)

Overall Peer Rating _____ (RI USE ONLY)

(4) The PES is based on the "TOP THIRD, MIDDLE THIRD, BOTTOM THIRD" concept. Each Ranger's individual ranking is measured against a table broken down into "top third, middle third, bottom third" relative to the number of Rangers in that squad. Those Rangers rated in the top third are awarded a "+1" rating, a "0" rating for the middle third, and a "-1" rating for the bottom third (**Figure 6-16-1**). The total of these ratings is compared to the total score table (**Figure 6-16-2**). Given that the lowest possible peer score for any given number of Rangers in a squad is "50", and the highest possible peer score is "100", a total tally peer score of "0" is equivalent to a peer percentage score of "75".

c. Student Execution:

(1) The Ranger students will fill out peer ranking bubble chart according to instructions given. The Ranger students fill out Commentary portion according to instructions given.

(2) Peer Ranking Portion: Students will rate his squad members according to their overall performance. Students will rate all members in the squad excluding himself. Students will assign a number position under the Peer Ranking portion according to the student's performance within the squad, e.g., The best Ranger in the squad will receive the number 1; the worst in a ten man squad will receive a nine (remember, the student does not rate himself).

(3) Commentary: Students will provide their comments regarding the rated Ranger's performance in the six categories shown. These categories are basic principles of the Ranger Creed, and are designed to offer insight into the finer points of a Ranger's performance, thereby providing the Commander with specific references to support counseling of that Ranger. Students are required to complete this section.

(4) Ranger Instructor Execution: The instructions of the Student Peer Evaluation Report are read to the students verbatim. Students are briefed that they will apply only their roster number to the report, and that by doing so they are acknowledging that their comments were made objectively and impartially, and were not shown to or discussed with others. Students fall under the Honor Code when they sign their name to the report. Students are prohibited from collaborating with other students to attempt to subvert the peer system. All rating forms are checked for compliance with these instructions when they are turned in. Once all rating forms are complete, the Ranger Instructor executes the following:

(5) Ranger Instructor tabulates squad's peer scores using peer ranking table (Table 2). The Ranger Instructors determine if any squad members have failed to achieve 60% (GO). Those Rangers that fail to achieve the minimum standard of 60% are designated as "Peer Failures" and are handled according to the provisions of Annex I.

(6) When the entire squad's individual peer scores have been calculated, the Ranger Instructor may complete the following:

(a) Order the scores achieved within the squad highest to lowest.

(b) Marking only the top Peer Score Sheet, RI may indicate the ranking of that individual within the squad, based upon peer score alone.

(c) NOTE: This is not required, but may be helpful to commanders that wish to determine an individual's status relative to the squad, and further assist the commander's counseling process at all levels.

(d) Once tabulated and complete, the Ranger's Peer Report Packet is placed in the student's academic record folder IAW Annex C.

(7) Company Commander Execution/Counseling: Any Ranger student that achieves a peer score of less than 60% is recorded as a "Peer Failure". These individuals must be counseled by the Ranger company commander both verbally and in writing:

(a) Verbally: Company commander will review and read the comments made by the Ranger's fellow squad members to the Ranger student as a means of highlighting to the Ranger areas in which he must improve to succeed. Company commander will take care NOT to reveal the names of the Rangers that provided the actual ratings and/or comments that resulted in that Ranger's failing peer score.

(b) Written: Company commander will provide a memorandum stating the reasons for counseling a particular Ranger, the date, and provide an opportunity for the Ranger to signify his agreement and understanding of the circumstances, and acknowledgement of the counseling on that same memorandum.

(c) All counseling and academic documentation will be retained in the Student Academic Folder.

(8) Battalion Commander Execution: Battalion Commander's will adjudicate upon the disposition of any student by means of the Battalion Academic Review Board.

1.1.1 6-5-3. Standards

a. A Ranger student must achieve a score of 60% or higher to be recorded as a Peer "GO". Students achieving scores of less than 60% are recorded as peer failures.

b. First time Peer Failures, the Battalion Commander will adjudicate and determine their disposition. If allowed to go forward, they must be moved, from Benning to Mountains different platoon within the company, from Mountains to Florida different company within the battalion, before beginning training at the next phase.

c. Multiple Peer Failures, the Battalion Commander will adjudicate and determine their disposition IAW Annex I (Academic Review Board Disposition Matrix). In the event that a Ranger student fails peers more than once, he could be recommended for Academic Drop by the Battalion Commander. Ranger students that have previously recycled do NOT begin again with a clean peer slate. All peer failures count toward the final total.

d. Peer & another academic area failures (i.e., patrols and/or spots), the Battalion Commander will also adjudicate.

APPENDIX B

FIGURES & TABLES REFERENCED BY CHAPTER 3

(CRT-A & RMS, *N*=212)

Table 1

Sample Demographic Information (N=627)

Race/Ethnicity	Percent	*N*
Black	5.7%	36
Hispanic	9.1%	57
American Indian	.3%	2
White	76.7%	481
Pacific Islander	1.4%	9
Asian	3.2%	20
Multi-racial	2.9%	18
Other	.3%	2
Declined to Answer	.3%	2
Total	100%	627

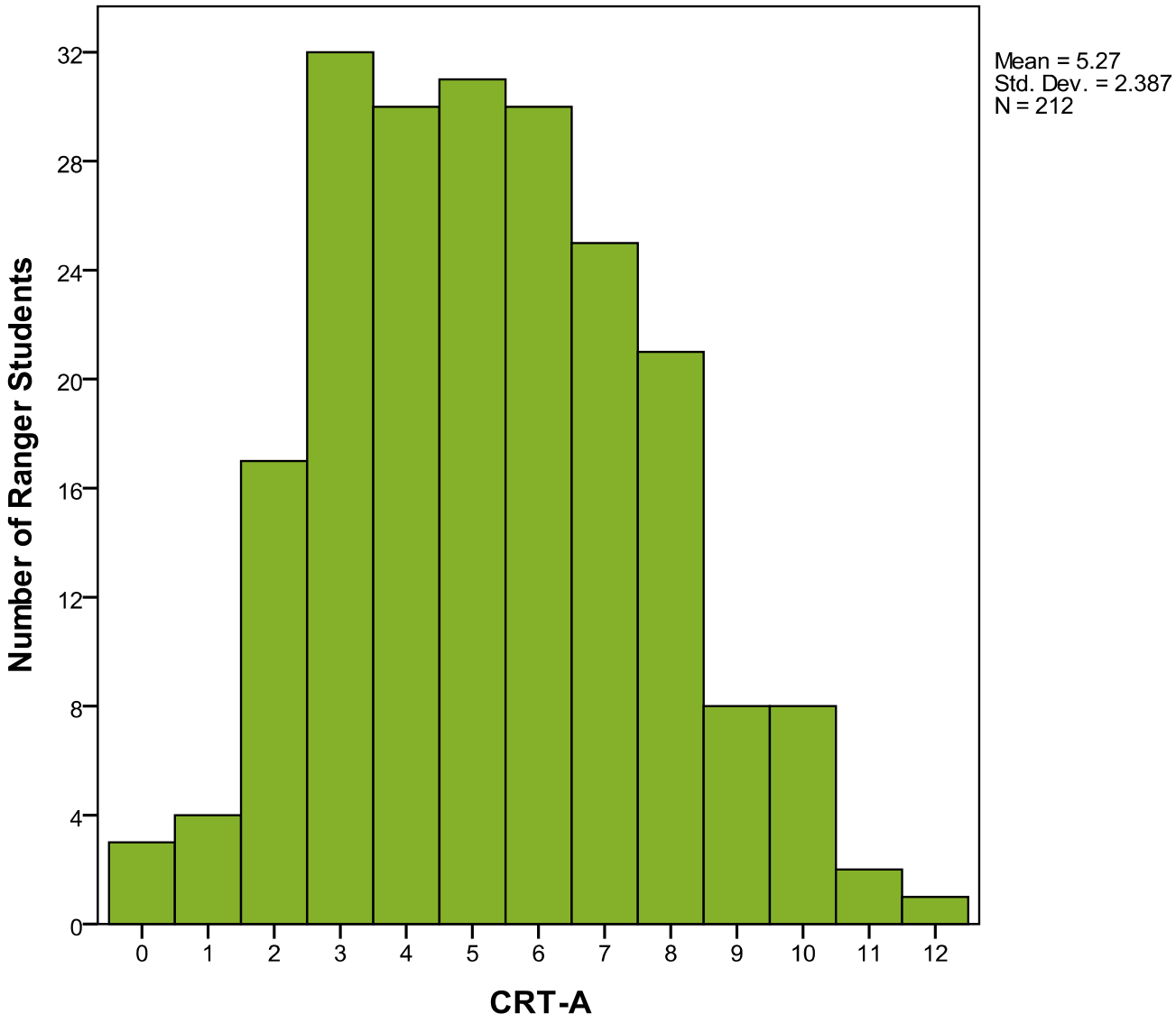

Figure 1. Histogram of Raw Scores on CRT-A

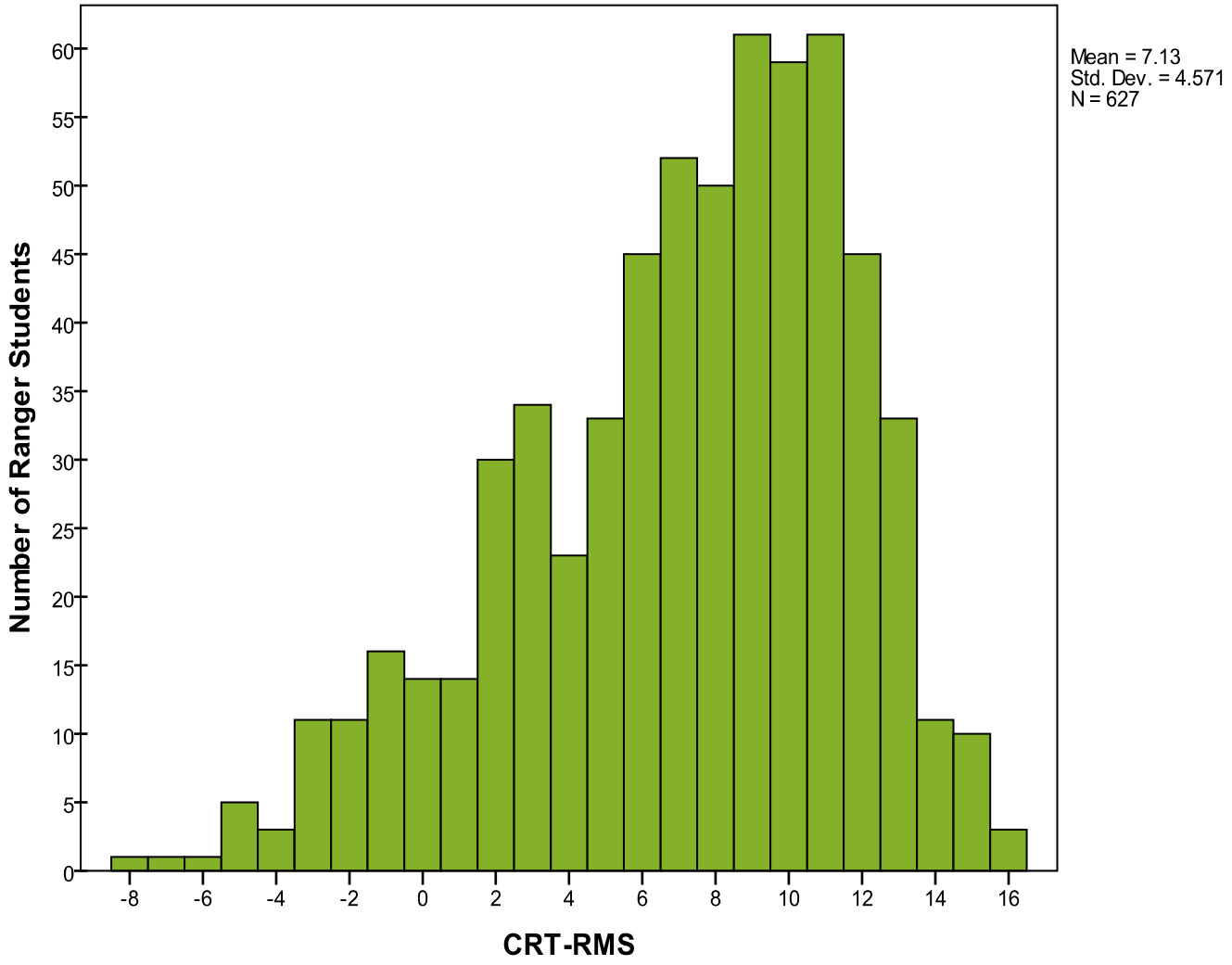

Figure 2. Histogram of Raw Scores on CRT-RMS

Table 2

Logistic Regression Predicting Graduation from CRT-A, CRT-RMS, and their Interaction

Predictor	B	Wald χ^2	*p*	Odds Ratio	95% CI of Odds Ratio	
					Lower	Upper
CRT-A	.066	.367	.545	1.068	.864	1.32
CRT-RMS	.026	.104	.747	1.026	.876	1.203
A x RMS	.006	.228	.633	1.006	.981	1.032

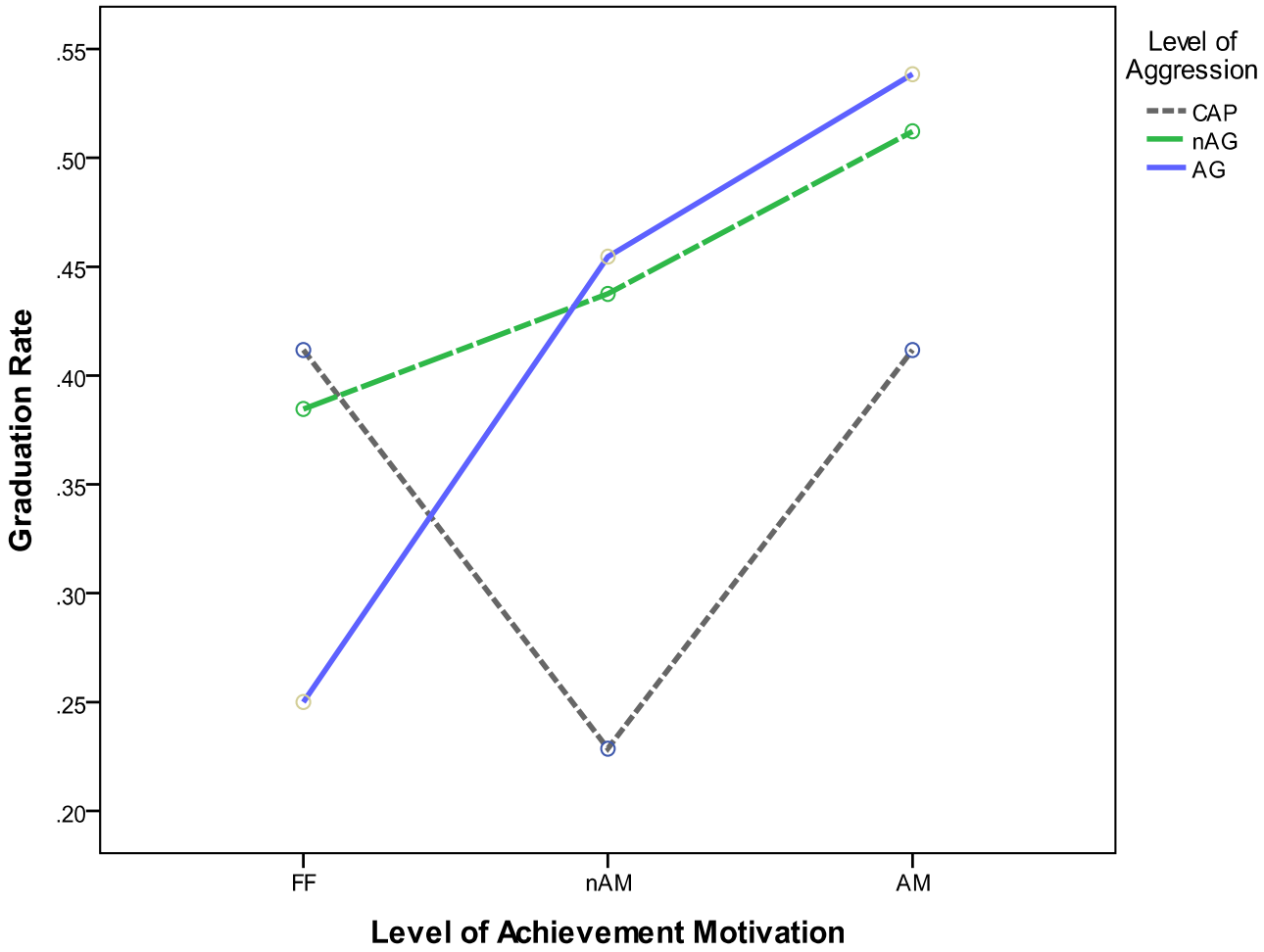

Figure 3. Graduation Rate as Predicted by Implicit Aggression & Achievement

Table 3

Descriptive Statistics for Nine Leader Personalities (CRT-A & RMS)

Leader Personality	Graduation Rate	*N*	Type Relative To Odds of Success (% of Sample)
AG-AM	54%	13	LLSs (54 of 212 = 25.5%)
nAG-AM	51%	41	
AG-nAM	45%	11	LLMs (107 of 212 = 50.5%)
nAG-nAM	44%	32	
nAG-FF	38%	13	
CAP-AM	41%	34	
CAP-FF	41%	17	
AG-FF	25%	16	LLFs (51 of 212 = 24%)
CAP-nAM	23%	35	
Total	40%	212	

Table 4

ANOVA Summary for Group-A, Group-RMS, & Graduation

Source	SS	df	MS	F	*p*
Group-CRT-A	.331	2	.166	.691	.502
Group-CRT-RMS	.662	2	.331	1.38	.254
Group-A x Group-RMS	.765	4	.191	.798	.528
Within	48.68	203	.240		
Total	85.0	212			

Table 5

Crosstabulation: Graduation by Leader Personality

Leader Personality	Graduation		Graduation Rate	Odds of Graduation (The ratio of grads to failures)
	Failures	Graduates		
LLS	26	28	51.9%	1.08 to 1
LLM	62	45	42.1%	.725 to 1
LLF	39	12	23.5%	.307 to 1
Overall	127	85	40.1%	.669 to 1

Note. $N = 212$

Table 6

Crosstabulation: Attrition Due to Poor Leadership of Patrols

Leader Personality	Dismissed for Poor leadership: Dismissed	Dismissed for Poor leadership: Not Dismissed	Dismissal Rate	Odds of Dismissal for Poor Leadership
LLS	0	54	0%	0
LLM	6	101	5.6%	.059 to 1
LLF	6	45	11.8%	.133 to 1
Overall	12	200	5.7%	.06 to 1

Note. N = 212

Table 6b

Crosstabulation: Attrition Due to Poor Leadership of Patrols (N=112)

Leader Personality	Dismissed for Poor leadership: Dismissed	Dismissed for Poor leadership: Not Dismissed	Dismissal Rate	Odds of Dismissal for Poor Leadership
LLS	0	33	0%	0
LLM	6	49	10.9%	.122 to 1
LLF	6	18	25.0%	.333 to 1
Overall	12	100	10.7%	.120 to 1

Note. N = 112

Table 7

Crosstabulation: Attrition Due to Quitting

Leader Personality	Quitting: Quitters	Quitting: Non-Quitters	Quitting Rate	Odds of Quitting
LLS	0	54	0%	0
LLM	1	106	0.9%	.009 to 1
LLF	3	48	5.9%	.063 to 1
Overall	4	208	1.9%	.019 to 1

Note. N = 212

Table 8

Crosstabulation: Attrition Due to Cheating & Egregious Conduct (SORs)

Leader Personality	Serious Observation Report? SOR	Not an SOR	SOR Dismissal Rate	Odds of SOR Dismissal
LLS	0	54	0%	0
LLM	3	104	2.8%	.029 to 1
LLF	5	46	9.8%	.109 to 1
Overall	8	204	3.8%	.039 to 1

Note. $N = 212$

Table 9

ANOVA Summary for 'Number of Reasons Cited for Dismissal' & Leader Personality

Source	SS	df	MS	F	*p*
Personality Type	4.29	2	2.147	5.348	.005
Within	83.90	209	4.01		
Total	186.00	212			

Table 10

Mean 'Number of Reasons for Dismissal' by Leader Personality

Leader Personality	M	*SD*	*N*
LLSs	.46	.539	54
LLMs	.70	.676	107
LLFs	.86	.633	51
Total	.68	.646	212

Table 11

Crosstabulation: Attrition Due to Peer Evaluation Failure

Leader Personality	Peer Failure 'Peered Out'	Not 'Peered Out'	Peer Failure Attrition Rate	Odds of Attrition Due to Peer Failure
LLS	2	52	3.7%	.038 to 1
LLM	6	101	5.6%	.059 to 1
LLF	1	50	2.0%	.020 to 1
Overall	9	203	4.2%	.044 to 1

Note. $N = 212$

Table 12

Crosstabulation: Attrition Due to 'Ranger Assessment' failure

Leader Personality	Ranger Assessment		Event Failure Attrition Rate	Odds of Attrition Due to Event Failure
	Failed	Did Not Fail		
LLS	21	33	38.9%	.636 to 1
LLM	52	55	48.6%	.945 to 1
LLF	27	24	52.9%	1.13 to 1
Overall	100	112	47.2%	.893 to 1

Note. $N = 212$

Table 13

Crosstabulation: Attrition Due to Injury & Medical Issues

Leader Personality	Injury/Medical Attrition		Med-Attrition Rate	Odds of Medical Attrition
	Med-Drop	Not Med-drop		
LLS	2	52	3.7%	.038 to 1
LLM	7	100	6.5%	.070 to 1
LLF	2	49	3.9%	.041 to 1
Overall	11	201	5.2%	.055 to 1

Note. $N = 212$

Table 14

Crosstabulation: Training Phases Passed v. Failed

Leader Personality	Training Phases		Portion of Training Phases Passed	Odds of Passing Any Given Phase of Training
	# of Phases Passed	# Failed		
LLS	86	45	65.6%	1.91 to 1
LLM	137	102	57.3%	1.34 to 1
LLF	45	53	45.9%	.849 to 1
Overall	268	200	57.3%	1.34 to 1

Note. $N = 468$

Table 15

Crosstabulation: Peer Evaluations Passed v. Failed

Leader Personality	Peer Evaluations: # Peer Evals Passed	Peer Evaluations: # Peer Evals Failed	Portion of Peer Evals Passed	Odds of Passing Any Given Peer Evaluation
LLS	105	3	97.2%	35.0 to 1
LLM	162	20	89.0%	8.10 to 1
LLF	59	7	89.4%	8.43 to 1
Overall	326	30	91.6%	10.87 to 1

Note. $N = 356$

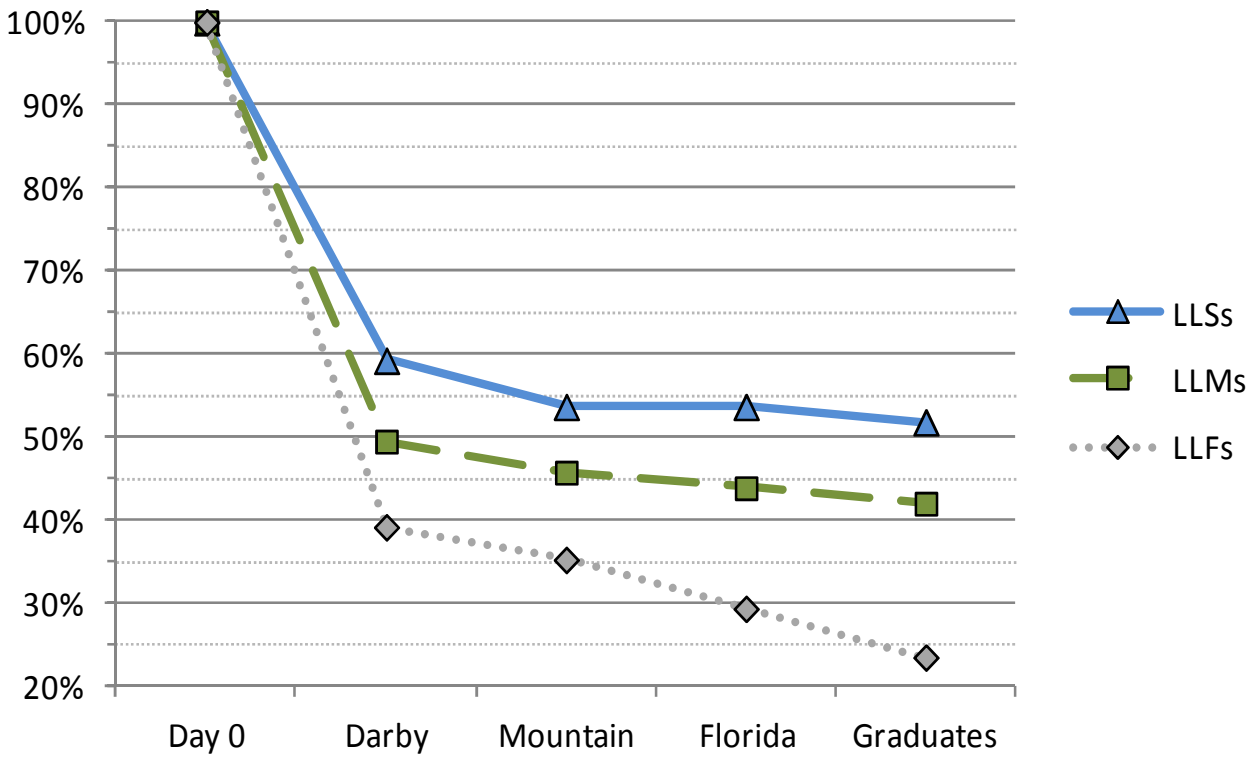

Figure 4. Attrition Over Time by Leader Personality Type (N=212)

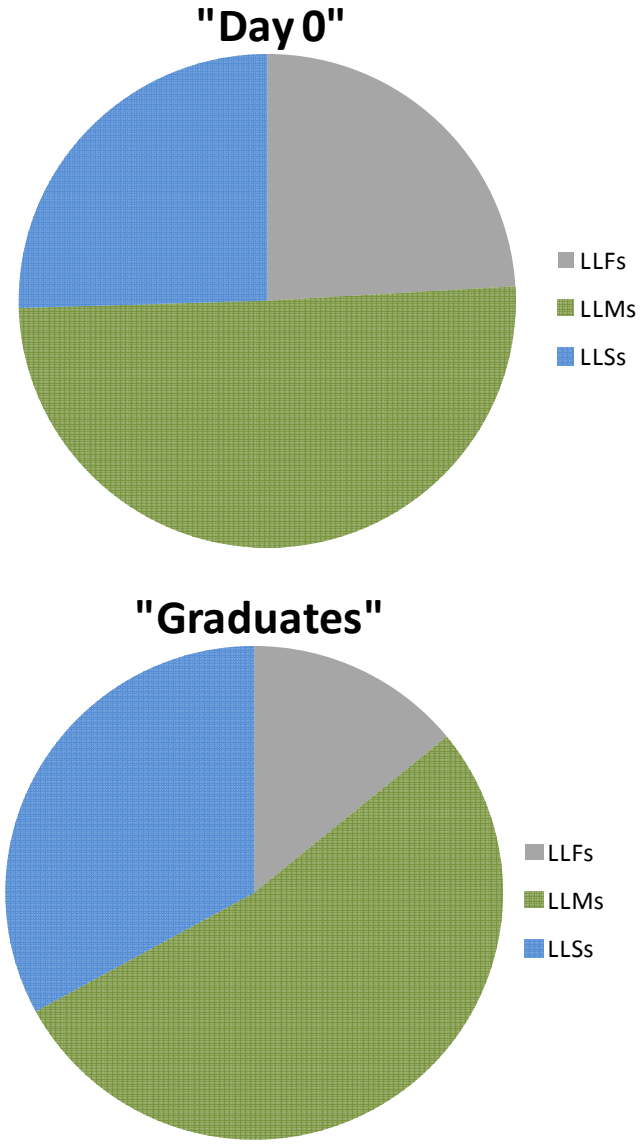

Figure 5. The personality composition of the group of 212 leaders who started Ranger School ("Day Zero") vs. that of the 85 who actually graduated ("Graduates").

APPENDIX C

FIGURES & TABLES REFERENCED BY CHAPTER 4

(CRT-L & RMS, *N*=415)

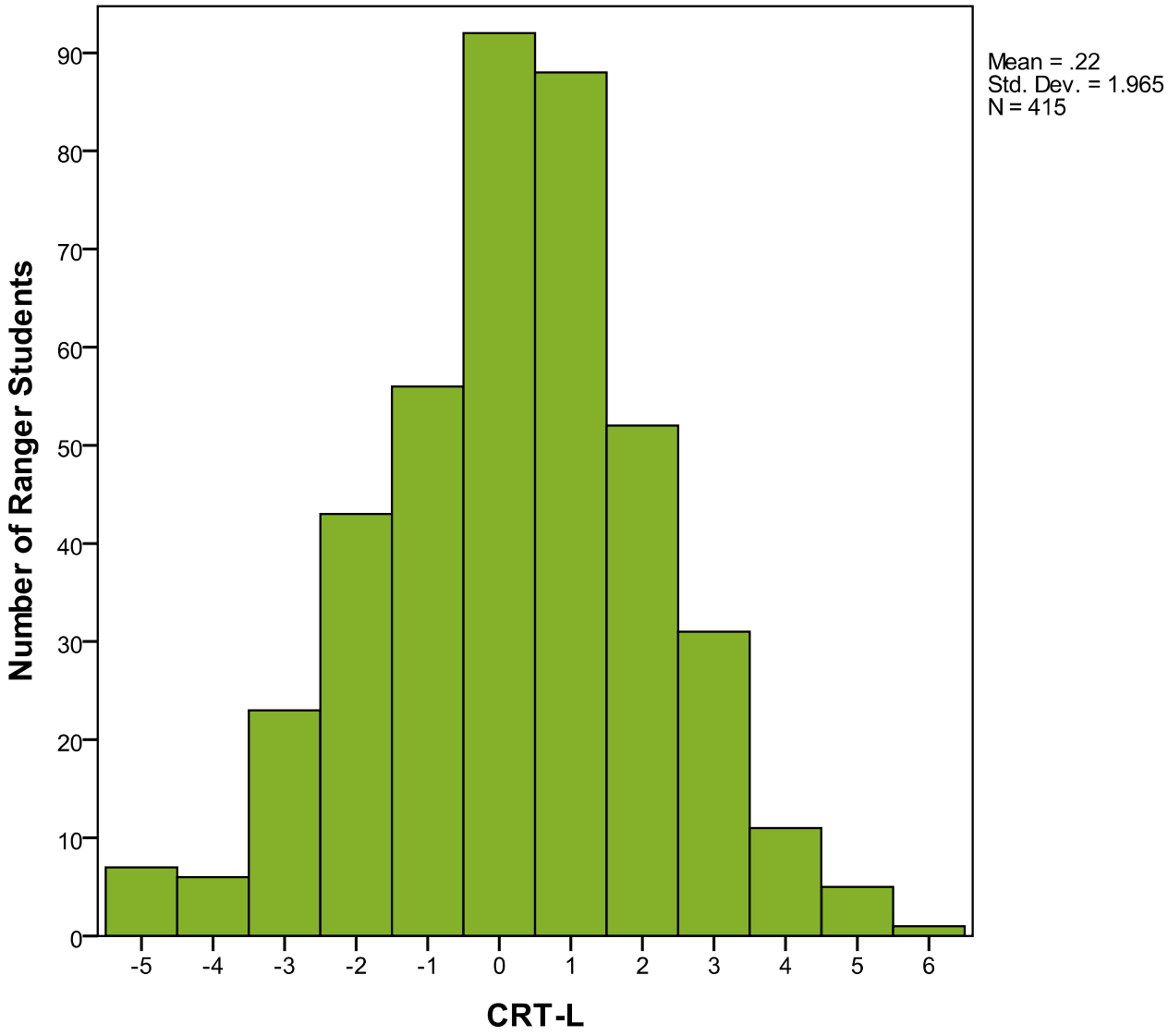

Figure 6. Histogram of Raw Scores on CRT-L

Table 16

Logistic Regression Predicting Graduation from CRT-L, CRT-RMS, and their Interaction

Predictor	B	Wald χ^2	*p*	Odds Ratio	95% CI of Odds Ratio	
					Lower	Upper
CRT-L	.069	.557	.455	1.072	.894	1.285
CRT-RMS	.068	7.70	.006	1.071	1.020	1.124
L x RMS	-.001	.004	.950	.999	.976	1.023

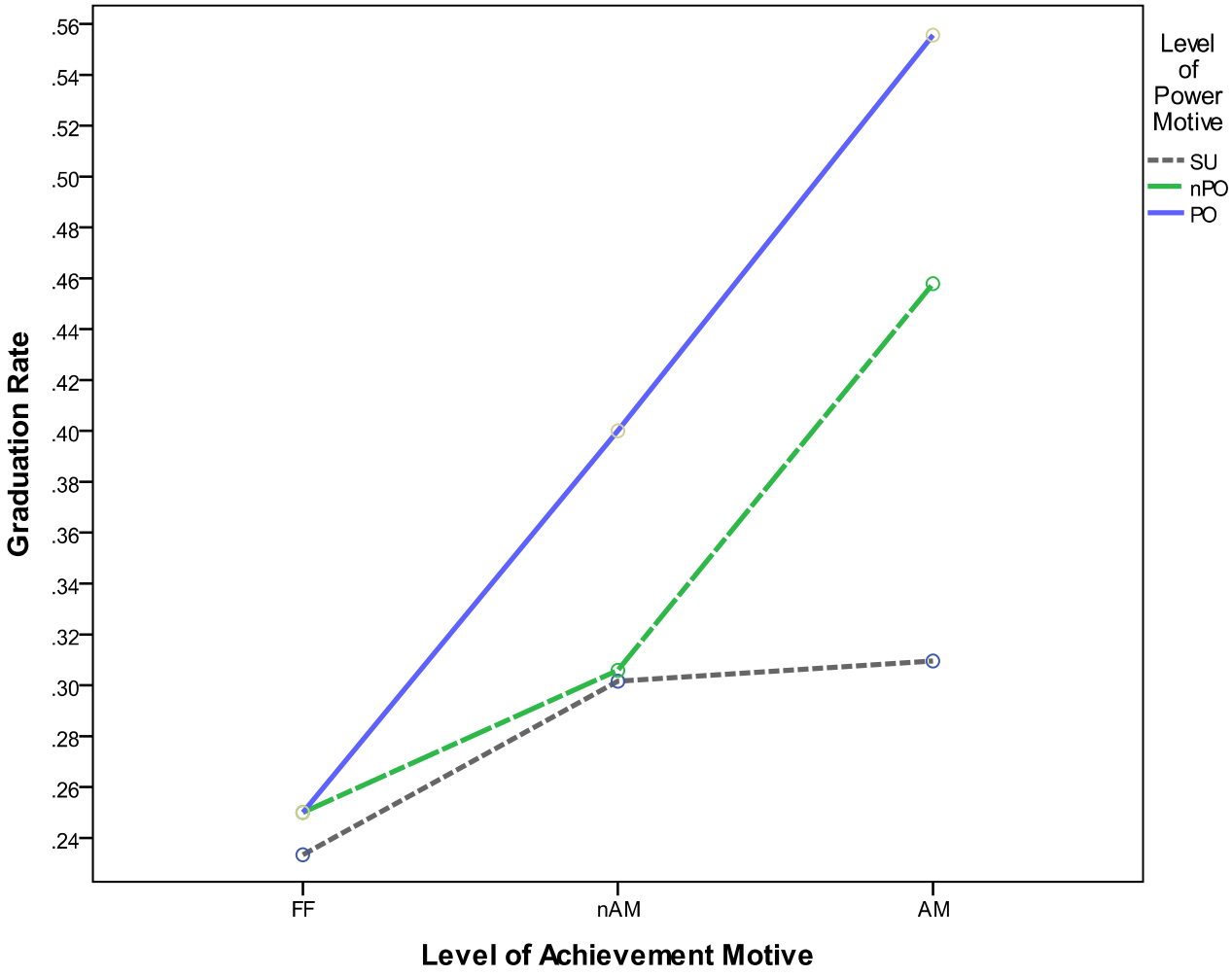

Figure 7. Graduation Rate as Predicted by Implicit Power & Achievement

Table 17

Descriptive Statistics for Nine Leader Personalities (CRT-L & RMS)

Leader Personality	Graduation Rate	*N*	Type Relative To Odds of Success (% of Sample)
PO-AM	56%	9	LLSs (107 of 415 = 25.8%)
nPO-AM	46%	83	
PO-nAM	40%	15	
SU-AM	31%	42	LLMs (190 of 415 = 45.8%)
SU-nAM	30%	63	
nPO-nAM	31%	85	
PO-FF	25%	24	LLFs (118 of 415 = 28.4%)
nPO-FF	25%	64	
SU-FF	23%	30	
Total	33%	415	

Table 18

ANOVA Summary for Group-L, Group-RMS, & Graduation

Source	SS	df	MS	F	*p*
Group-CRT-L	.512	2	.256	1.17	.310
Group-CRT-RMS	1.48	2	.740	3.39	.035
Group-A x Group-RMS	.498	4	.125	.571	.684
Within	88.58	406	.218		
Total	136.0	415			

Table 19

Crosstabulation: Graduation by Leader Personality

Leader Personality	Graduation		Graduation Rate	Odds of Graduation (The ratio of grads to failures)
	Failures	Graduates		
LLS	58	49	45.8%	.845 to 1
LLM	132	58	30.5%	.439 to 1
LLF	89	29	24.6%	.326 to 1
Overall	279	136	32.8%	.487 to 1

Note. $N = 415$

Table 20

Crosstabulation: Attrition Due to Injury & Medical Issues

Leader Personality	Injury/Medical Attrition		Med-Attrition Rate	Odds of Medical Attrition
	Med-Drop	Not Med-drop		
LLS	2	105	1.9%	.019 to 1
LLM	13	177	6.8%	.073 to 1
LLF	11	107	9.3%	.103 to 1
Overall	26	389	6.3%	.067 to 1

Note. N = 415

Table 21

Crosstabulation: Attrition Due to 'Ranger Assessment' failure

Leader Personality	Ranger Assessment		Event Failure Attrition Rate	Odds of Attrition Due to Event Failure
	Failed	Did Not Fail		
LLS	39	68	36.4%	.574 to 1
LLM	99	91	52.1%	1.09 to 1
LLF	79	39	66.9%	2.03 to 1
Overall	217	198	52.3%	1.10 to 1

Note. N = 415

Table 22

ANOVA Summary for 'Number of Reasons Cited for Dismissal' & Leader Personality

Source	SS	df	MS	F	*p*
Personality Type	6.16	2	3.08	7.72	.001
Within	164.28	412	.399		
Total	402.00	415			

Table 23

Mean 'Number of Reasons for Dismissal' by Leader Personality

Leader Personality	M	*SD*	*N*
LLSs	.55	.602	107
LLMs	.78	.645	190
LLFs	.87	.634	118
Total	.75	.642	415

Table 24

Crosstabulation: Attrition Due to Poor Leadership of Patrols

Leader Personality	Dismissed Poor leadership: Dismissed	Dismissed Poor leadership: Not Dismissed	Dismissal Rate	Odds of Dismissal for Poor Leadership
LLS	7	100	6.5%	.070 to 1
LLM	11	179	5.8%	.061 to 1
LLF	4	114	3.4%	.035 to 1
Overall	22	393	5.3%	.056 to 1

Note. $N = 415$

Table 25

Crosstabulation: Attrition Due to Quitting

Leader Personality	Quitting: Quitters	Quitting: Non-Quitters	Quitting Rate	Odds of Quitting
LLS	2	105	1.9%	.019 to 1
LLM	2	188	1.1%	.011 to 1
LLF	2	116	1.7%	.017 to 1
Overall	6	409	1.4%	.015 to 1

Note. $N = 415$

Table 26

Crosstabulation: Attrition Due to Peer Evaluation Failure

Leader Personality	Peer Failure: 'Peered Out'	Peer Failure: Not 'Peered Out'	Peer Failure Attrition Rate	Odds of Attrition Due to Peer Failure
LLS	6	101	5.6%	.059 to 1
LLM	11	179	5.8%	.061 to 1
LLF	3	115	2.5%	.026 to 1
Overall	20	395	4.8%	.051 to 1

Note. $N = 415$

Table 27

Crosstabulation: Attrition Due to Cheating & Egregious Conduct (SORs)

Leader Personality	Serious Observation Report? SOR	Not an SOR	SOR Dismissal Rate	Odds of SOR Dismissal
LLS	3	104	2.8%	.029 to 1
LLM	12	178	6.3%	.067 to 1
LLF	4	114	3.4%	.035 to 1
Overall	19	396	4.6%	.048 to 1

Note. $N = 415$

Table 28

Crosstabulation: Training Phases Passed vs. Failed

Leader Personality	Training Phases # of Phases Passed	# Failed	Portion of Training Phases Passed	Odds of Passing Any Given Phase of Training
LLS	153	91	62.7%	1.68 to 1
LLM	183	159	53.5%	1.15 to 1
LLF	86	113	43.2%	.761 to 1
Overall	422	363	53.8%	1.16 to 1

Note. $N = 785$

Table 29

Crosstabulation: Peer Evaluations Passed vs. Failed

Leader Personality	Peer Evaluations # Peer Evals Passed	# Peer Evals Failed	Portion of Peer Evals Passed	Odds of Passing Any Given Peer Evaluation
LLS	180	19	90.5%	9.47 to 1
LLM	201	24	89.3%	8.38 to 1
LLF	105	9	92.1%	11.67 to 1
Overall	486	52	90.3%	9.35 to 1

Note. $N = 538$

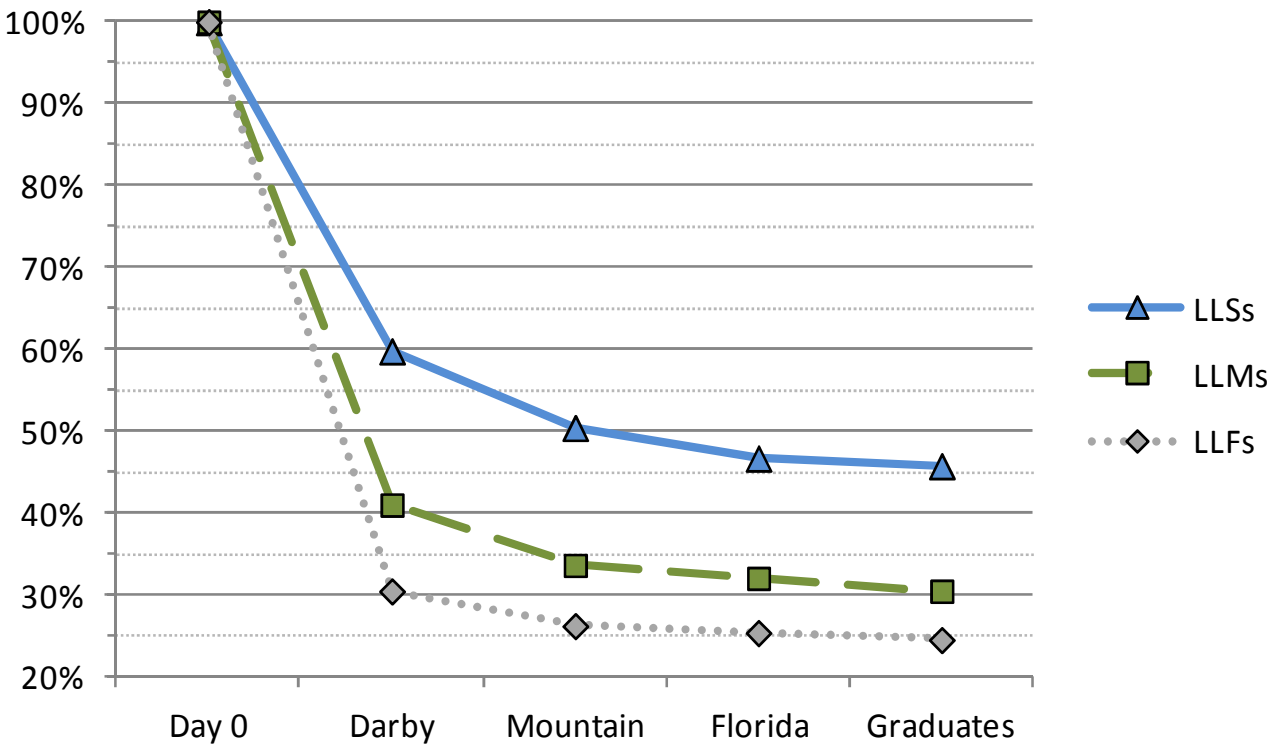

Figure 8. Attrition Over Time by Leader Personality Type (*N*=415)

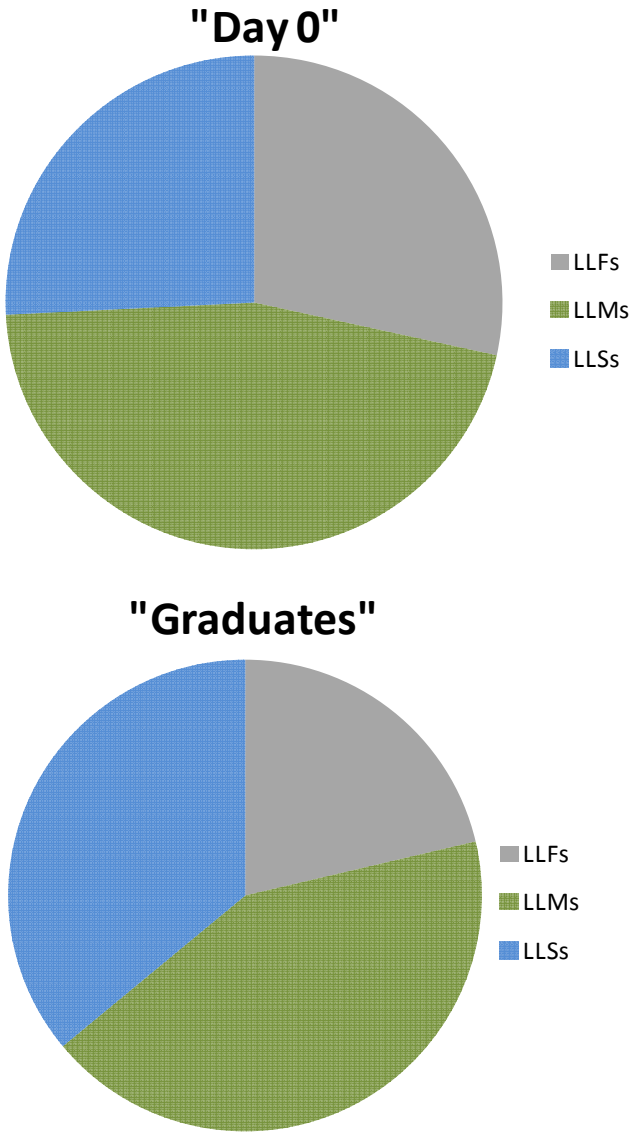

Figure 9. The personality composition of the group of 415 leaders who started Ranger School ("Day Zero") vs. that of the 136 who actually graduated ("Graduates").

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